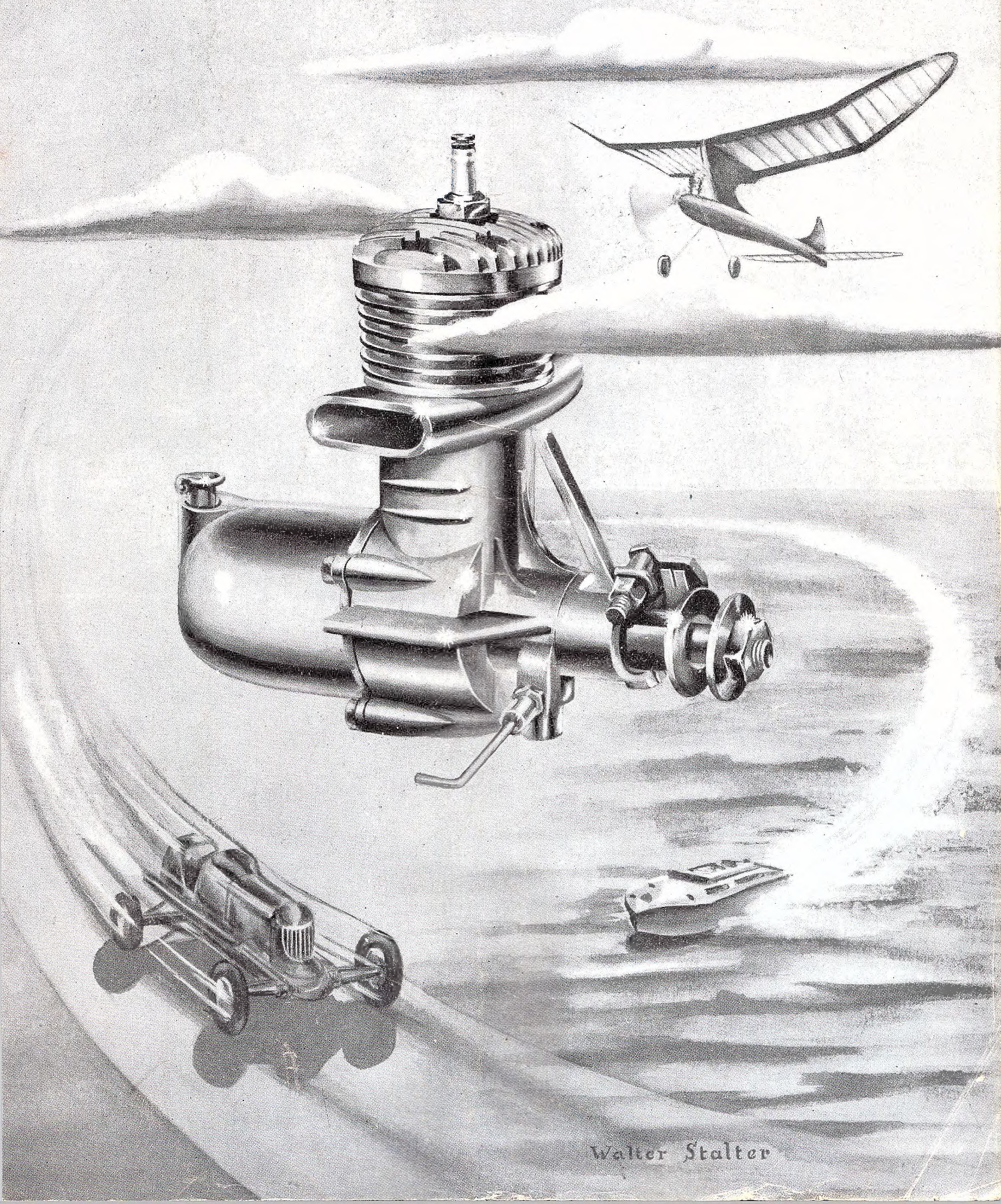


THE MODEL CRAFTSMAN

JULY 1947
35 CENTS



Walter Stalter

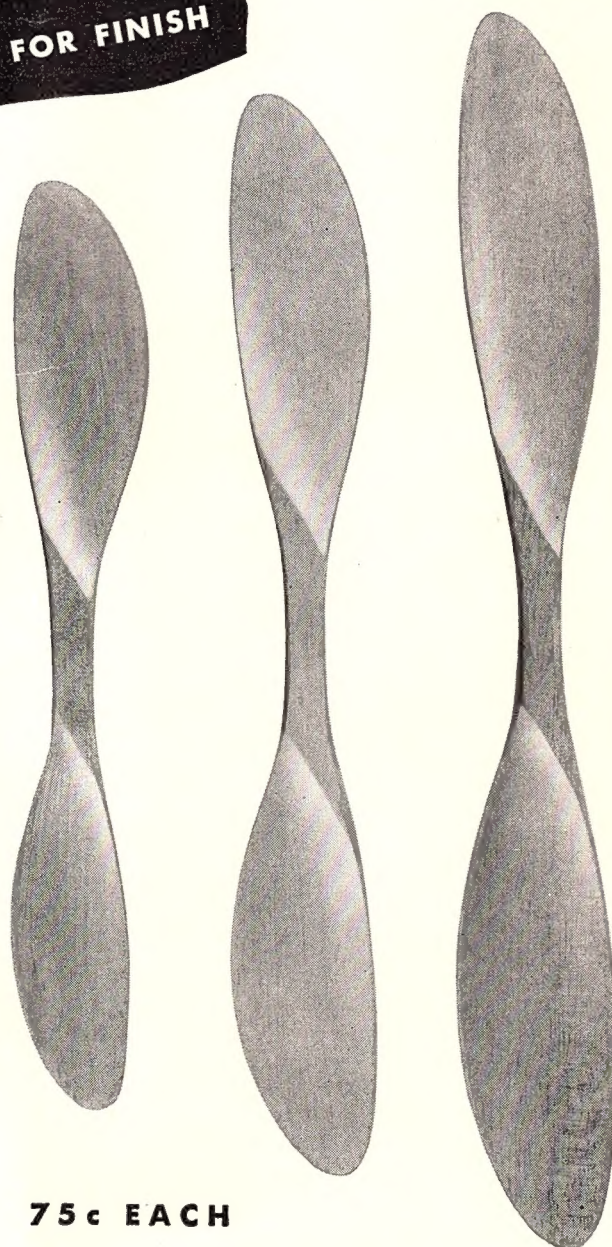


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WESTERN LOCOS WANTED

A few years back you published one of my letters concerning Western Pacific locomotives, but you never have done anything about it. I was just thinking that you have about completed publishing plans for every type of engine on the roster of the Erie, B. & O. and also the Pennsy.

Now why don't you print some plans for some western engines? The S. P., Santa Fe and Northern Pacific have some dandy locomotives.

But on a whole, your mag is still good. It has its ups and downs like everything else. . . . *Ray Przybos, Haywards, California.*

WHY NO TROLLEYS?

Now that I am writing to you, I would like to see more trolley art and plans every month. I believe you miss every so often. I also don't believe they are as good as they should be. I don't say take more pages for it.

Remember how good you started out in March, 1940? You don't have to have a blue print, but just good plans, good art and good pictures. Get the plan and pictures of cars that the line are going out. If you don't do any other thing, please show the plan of under the floor of an interurban car, air pumps and so on, some time soon. . . . *Gilbert R. Eversull, Cincinnati, O.*

WANTS POWER UNIT

I have been an HO modeler for a number of years now, on and off that is, and I find that my biggest problem is a DC source of power.

I've tried many methods including dry cells, automobile batteries, and my latest trial was a solenium rectifier with a Lionel transformer, a half wave unit. Of these, the auto battery was by far the most efficient and satisfactory. However, it required too much care, and recharging became a nuisance, in addition to its being a household hazard.

The solenium half wave unit was small, compact and very clean, but delivered very little power because of its being a half wave rectifier, and because it had a limit of about twenty or twenty-five watts.

Often I've thought of the full wave power pack as the solution, but these packs are all rather high priced, especially if you want one of about fifty watts capacity (12 volts).

If it is at all possible, I'd like very

THE MODEL CRAFTSMAN
RAMSEY NEW JERSEY
Including "THE MODELMAKER"—Est. 1924 and MINIATURE RAILROADING Magazine

EDITOR AND PUBLISHER *Charles A. Penn*

MANAGING EDITOR *Robert W. Thompson*

ART DIRECTOR *Walter A. Stalter*

ADVERTISING MANAGER *James H. Thompson*

RESEARCH EDITOR *Louis H. Hertz*

Field Editors: Railroads—L. W. Sagle, H. L. Adams. Race Cars—C. A. Penn.

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JULY, 1947

CONTENTS FOR JULY, 1947

RAILROADS

Truss Bridge—By Warren B. Crater	12
Crossing Signals	14
Along The Tinplate Track—By Louis H. Hertz	16
"Route of the 400" Box Car	17
Cable Car	18
D & L W Consolidation—By Warren B. Crater	20
Diesel Switcher	23
Flywheel Boiler Feed-Pump—By C. Blackstaffe	24
Your Nabor's Pike	25
Pennsy Mikado 2-8-2	26
Prototype Quiz	43
Electrical Symbols	45
Pike Registry	46
Model R.R. Club News	4

MODEL AIRCRAFT

Your Engines	28
Mirror Model Flying Fair	30
Circle Jerk—By Joseph Flor	32
Model Plane News	34

RACE CARS

Fuel Cans—By Bill Decker	6
AMRCA Rail & Cable Nationals	7
Present Speed Records	37
AMRCA Sanctioned Meets	41

POWER BOATS

Fifth Annual Philadelphia Regatta	10
Hi-Speed in Hawaii	11

much to see a plan for such a power unit, giving a list of parts and an accompanying wiring diagram. I am sure that such a plan would be well received by your readers since apparently there are many HO fans having the same difficulty on their pikes. . . . *Carmin S. Garguillo, Brooklyn, N. Y.*

MORE DIMENSIONS!

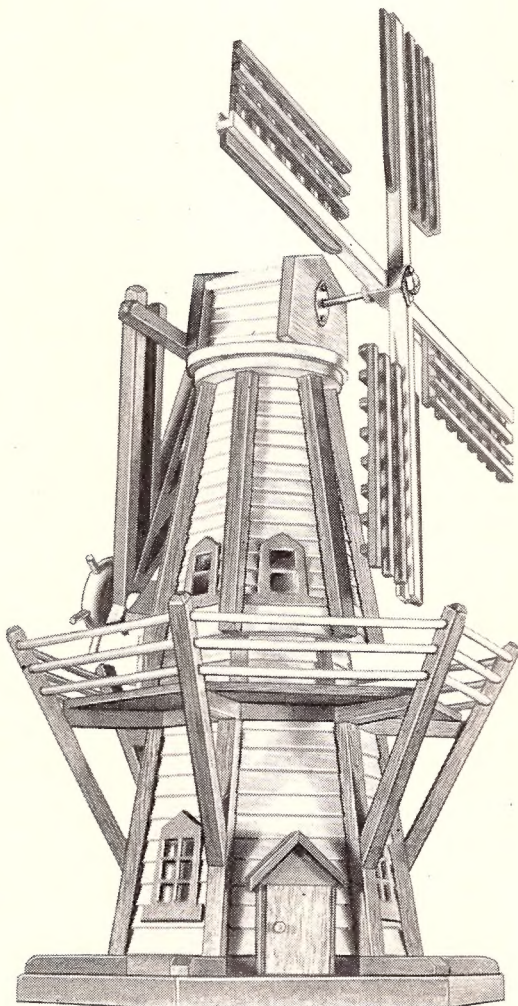
Enclosed please find check for \$2.50 for one year subscription. I am doing this because of the enormously improved caliber of your material in recent months.

I consider W. Crater your best contributor, but like the large drawings of cars and construction articles on that subject also. The Indiana Railway Diner

was good. May I suggest for your consideration for future cars, the subway cars of the Delaware River Joint Commission, which are streamliner versions of the Philadelphia Broad Street Subway Cars and the old wooden MU cars of the Pennsylvania Reading Seashore Lines.

I hope you will see fit to incorporate many dimensions in your drawings. I would like to build the Atlantic City Ocean City Car in the December issue but the drawing has not a single dimension. Errors in scaling or shrinkage or stretching of the paper are multiplied in enlarging to a larger scale. The Budd Car for New York Central had a lot of dimensions and was better than most in this respect. The more the better! . . . *Frank Moore, Jr., Wayne, Pa.*

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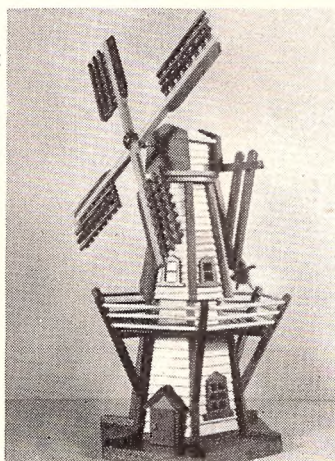
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RAILROAD CLUB NEWS

PORTSMOUTH, R. I. A new S-gauge model railroad club has just been formed in Portsmouth, located in a former New Haven Box Car at the junction of Bristol Ferry Road and Sprague St. The boys operate the "Mt. Hope Bay Lines." Meetings are held every other Tuesday night. Any interested model rail fan is welcome to visit the club at any time.

BROOKLYN, N. Y. The Bay Ridge Model Railroad Club, O-gauge, is now reorganizing and would like to hear from any O-gauge fans who would be interested in joining the club.

The B. R. M. R. R. Club was in operation before the war, but as almost all members were in the armed forces, the club was forced to disband. Now they would like to get started again but they want to see more members join the ranks. For information, drop a line to either Robert Kretschmar, 8300 Fourth Ave., Bklyn. 9, N. Y., or to Thomas R. Brecht, 564 73rd St., Bklyn. 9, N. Y.

HAWTHORNE, CALIF. On Saturday night, June 7th, the Balboa Park Model R. R. Club of San Diego, The American Model R. R. Club of Los Angeles and the San Marino and Santa Fe owned by Minton Cronkrite visited the Centinela Valley R. R. Club. Al Wood and a group from the Hollywood and Western also dropped in. The fellows ran three schedules and after "coffee and," they broke up about 2 a.m., as 25 of the boys had a drive of 132 miles to make in returning to San Diego.

In the past six months, the Centinela Valley boys have cut in two stations of three and four sidings each and extended the main line about 200 feet. Lee Ridgman and "Cap" Snell are now working five nights per week to complete the new scenery.

SANTA ANA, CALIF. The Orange County Model Railroad Club has recently incorporated as a non-profit corporation and the Club Railroad, namely the "Santa Ana Valley Lines" received its franchise from the State of California.

The Club is located at 206½ W. Third, Santa Ana, and meets each Monday and Thursday at 8 P.M. Officers for 1947 are: L. H. Smith, President C. Reidnour, Vice-President; J. W. Kitchen, Jr., Treasurer; R. P. Clute, Operations Sup't; Frank Wolfe, Maintenance & Construction Sup't. Mr. Reidnour also serves as Secretary.

Current construction projects include rebuilding all control boards and installing 16 new rheostats designed and constructed by electrical crew, a 35-foot addition to layout to make a 4th mainline division; double tracking mainline in two divisions and part of a third; doubling the size of the yard at Fairview, the principal city; construction of two new yards; relocating and enlarging industrial district at Fairview; enlarging and modernizing and relocating Fairview engine terminal; complete rebuilding of club's 3-color, 2 directional, 2-rail signal system to incorporate improvements

The Model Craftsman

brought out in two year's original system has been in operation; installing two 15-foot sidings in mountain division and construction of two new towns. These projects are actually being executed, not mere opium dreams.

Total trackage will be just under 4000 feet and area 25 by 88 feet upon completion of current program. Present trackage is 3000 feet, and area 25 by 58 feet. The 16 members are enthusiastically working on all projects at club and at home as their objective is the finest HO gauge layout in the U. S.

OAKLAND CONVENTION.

Highlight of the year for the NMRA gang is the coming convention at Oakland, California, on August 16th and 17th, host club being the Eastbay Model Engineers. Not only will rail fans have the time of their lives on the West Coast, but have the opportunity to share in a "paradise trip" cross country on rails. The Special is scheduled to leave from Chicago Union Station on Sunday afternoon, August 10th and will arrive in Oakland late afternoon, August 14th after four days of real railroaders' travel. After four full days of convention, the Special leaves via Southern Pacific and Santa Fe Railroads on August 18th, to arrive back in Chicago on the 23rd. Overall picture will be an action-packed full two weeks' vacation to please the most rabid railroad fans.

Last minute reservations can still be placed by writing to E. H. Beck, 921 Fox Theatre Bldg., Detroit 1, Mich. Previous rates announced on railroad fares will now be slightly higher due to an increase in rates which just went into effect recently.

LUBRICATE YOUR ROLLING STOCK

TAKING the average piece of rolling stock on any layout, lubrication is either overdone or forgotten completely! It's hard to say which is the greater of two evils. The harm done by neglecting to oil any machinery speaks for itself. But it is strange that so many people seem to think that an electric motor can be helped by giving it an oil bath. No more oil should be used than will just fill the oil holes of the bearings and the commutator and brushes should be kept entirely free from oil at all times. It is not at all a bad idea to wipe the commutator about once a week with a rag which has had a small amount of vaseline rubbed into it thoroughly. Axles of car trucks work best with a little graphite grease instead of oil.

Crude Switches will cause a pack of trouble unless corrected. Make a special effort to file the points of the switch forming a smooth passage for the wheels of your rolling stock.

Off-Scale Equipment on your pike will definitely ruin the appearance of your layout. Stick to scale throughout all projects, no matter whether they be a complicated engine or a simple figure for your station.

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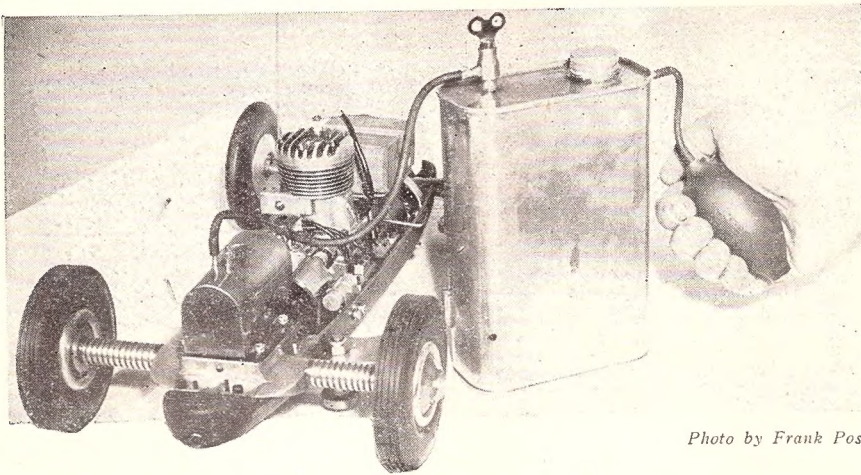


Photo by Frank Post

FUEL CANS

By BILL DECKER

WHILE going over my racing equipment recently and taking inventory of the things usually taken to the track, I ran across my favorite fuel can. This started me thinking about some of the races I have attended. I just can't recall seeing two fuel cans alike in anyone's box. This is an important piece of equipment and regardless if it is the same as mine or not, it should be made to fill several definite requirements. First of all, it must naturally dispense fuel from the container to the gas tank in as short as possible time. Secondly, it must contain enough fuel for practically an entire day's running. Last and perhaps most important, it must transfer fuel from the can to the tank without exposure to the air, thereby contaminating it with dust and dirt. The fuel tank described here meets these requirements very simply, for a cost of less than one dollar.

First obtain a good 1-quart can with a screw top. These are found in abundance at your local hardware or dime store containing wax for floors, paint thinner, cleaning fluid, etc. If one buys these products to be used around the house, it can be transferred into some other container and the cost of your can is nil. While at the hardware store, for the tremendous sum of roughly *two bits* you can purchase a radiator air outlet valve and key. A one-foot length of neoprene tubing is purchased at your local hobby shop together with about 13" of $\frac{1}{8}$ " brass tubing. Last but not least, a squeeze bulb similar to those used by photographers that has a small ball bearing check valve at one end. A suitable bulb of this type can be purchased at your local drug supply house. The one I usually recommend is the #5086 Tycos bulb made by the Taylor Instrument Companies, Rochester, N. Y. They cost approximately 50c.

With these pieces on hand, it is a fairly simple matter to make up your fuel can. Usually it is necessary to turn up a small brass or aluminum fitting to go into the end of the bulb to which the neoprene tubing will be attached. This

is very simply made however, and can be machined using the dimensions as shown. The key for the shut-off valve usually comes separate, but should be sweat-soldered to the needle valve so that it cannot become lost or misplaced. A short 1" piece of the $\frac{1}{8}$ " diameter brass tubing is soldered into the outlet of the valve. The hole in this valve will most likely need drilling out to receive the tubing. Drill this only about $\frac{1}{8}$ " deep. The same will apply to the base of the valve where your inlet tube is inserted. This tube should extend down into the tank within $\frac{1}{8}$ " from bottom. Solder the valve in position as shown. Insert a piece of $\frac{1}{8}$ " tubing about 2" long into the side of the tank and as close to the top as possible, allowing $\frac{1}{2}$ " to protrude.

This is your air inlet and your squeeze bulb can be attached to this with a 4" piece of neoprene tubing. I usually take about a 6" piece of neoprene tubing and insert this onto the shut-off valve, putting a 1" piece of $\frac{1}{8}$ " brass tubing in the other end. If a piece of $\frac{3}{16}$ " brass tubing (roughly 1" long) is handy, solder this to the side of the tank to hold your filler tube when not in use.

Mixing your fuel at home under ideal conditions is the perfect set-up. You can filter your day's supply directly into the can, seal the top and then not worry about getting dust and dirt in it at the track. When you are ready to fill your car, insert your filler-tube directly onto the tank inlet, open the needle valve slightly and pressurize the fuel can by squeezing the bulb. The air pressure thus raised will force the fuel up the inlet tube, through the shut-off valve and into your tank. The instant fuel starts running from the air outlet in your tank, close the shut-off valve and withdraw the tube.

This fuel can is not only fast and clean but also very economical inasmuch as fuel is seldom wasted by spilling, etc. To some of you oldtimers, this method of carrying and dispensing fuel is old, but many newcomers will probably welcome something as simple as this to solve their problems. I have seen some very elaborate chrome plated versions of this fuel can, using the body and pump of a blow torch as the main parts. The only drawback is the shape and weight of such a can.

Next month, we will present a detailed description of the fuel tank used by many of the top-notch rail boys. In the meantime, I will gladly answer any questions pertaining to Rail operation and cars, if you will address your letters to me, Bill Decker, c/o Model Craftsman, Ramsey, N. J.

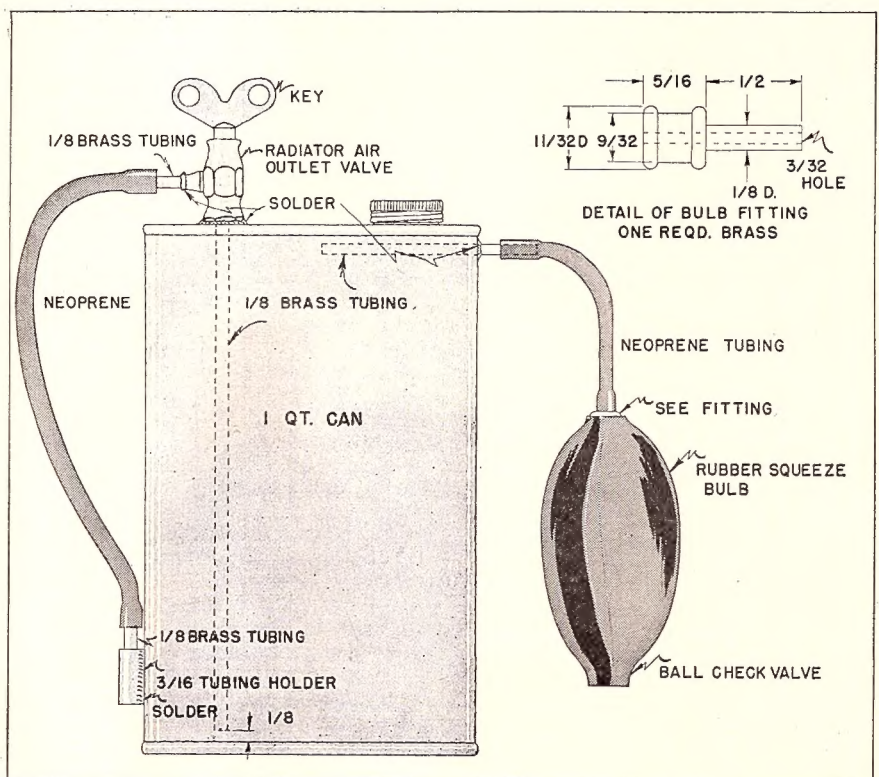




Photo by Thompson

Rail Nationals will be held on this track, Chicago, Illinois, on August 8th, 9th & 10th. Better not miss them for real action and stiff competition is anticipated. Incidentally, some rail records should fall!

AMRCA RAIL NATIONALS AT CHICAGO

AMRCA Rail Nationals will again be held at Chicago's popular $\frac{1}{16}$ th mile track located at Downers Grove, Ill., on August 8th, 9th and 10th, just one week before the Cable Nationals in Indianapolis. All race car fans are invited to attend and participate in the world's fastest competitive rail racing yet to be held in these United States.

Thirty-five trophies will be awarded the winners, 24 of these being awarded by the AMRCA. Much appreciation is due the AMRCA, parent organization, who makes these national meets possible. Many thanks to Mike Trost and M-G

Hobby Shop who so generously donated such fine trophies for this big event. Fifteen places will pay off with trophies in each class. Highest qualifying cars in each class will earn the remaining trophies. At least eighty merchandise prizes will go to contestants of this meet, so everyone will earn some sort of prize.

If you have never seen a Rail Race, now is the time to come out and get acquainted with the Rail boys, one grand bunch of fellas. With over a dozen new Rail Tracks mushrooming up all over the country, Chicago expects to play host to at least a hundred new contest-

ants. With such keen interest being evidenced throughout the country, you race fans should take a tip and give this end of the sport some serious thought. Rail Racing is definitely here to stay and take its share of interest and enthusiasm from Mr. Average Race Car Fan!

If you have a cable proto, with a few changes you can easily run on rail. The fastest rail running today is patterned after a cable proto. As a matter of fact, the car uses at least a half dozen parts from the Pacemaker cable car. There are approximately a dozen new Doolings running in stiff competition on the Chicago track every Sunday. So if you race a Dooling, write to the manufacturer for rail adaptors. I believe they are available. Did you say a drive clutch? That's for the birds! The writer's car will do better than 80 MPH every time you set her down and it's only a straight coupled job. Tires? You need semi-hard tires, not too hard and not too soft, preferably $3\frac{5}{8}$ " diameter work best. Your car will operate best on rail with a gravity feed tank and many of you boys are using this type of tank. With these few minute changes on your car, you will be all set to give rail racing your baptism of fire.

The three-day meet opens Friday morning, August 8th, at 10:00 A. M. The track is open for approximately two hours for practice runs and registration, followed by one hour out for lunch. At 1:00 P. M., the program will start with qualifying time trials, each and every car taking its turn on the Number Two rail (*Chicago's qualifying rail*). Each contestant will be given three attempts to qualify his car, a two-minute period being allotted for each qualifying attempt. All cars will be qualified at one quarter of a mile. All qualifying will end on Saturday at 1:00 P. M. All out-of-town cars coming in later than set deadline for qualifying will be given full consideration by the race committee.

Each car shall be marked on both sides in legible and easily read manner, with the AMRCA number of its owner.

(Continued on page 36)

AMRCA NATIONAL CONVENTION AND CABLE CHAMPIONSHIPS

THIS year, your AMRCA Cable Nationals and Convention will be held on August 14, 15, 16, & 17, at Indianapolis, Indiana, one of the finest Hotel and Convention Cities and the race car capitol of the World. The sponsoring Club, The Indianapolis Model Race Car Association, has just completed a modern, fast track designed for the very highest speeds. There is also possibility that an additional track will be constructed in time for this championship race.

All those fans who plan to take in the Nationals, should contact either L. E. Wallace, 3541 North Temple St., Indianapolis, or your AMRCA Secretary, E. D. Fitzgerald, c/o Hotel Governor Clinton, 7th Ave. & 31st St., New York 1, N. Y., regarding hotel accommodations and full information.

Believing that the greater number of active members will benefit thereby, the Board of Officers and Directors have voted to hold the Nationals in the Midwest. The average race fan does not realize that the four States of Illinois, Indiana, Ohio and Michigan comprise nearly half of the total enrollment and have more tracks than any other section of the country.

The American Miniature Racing Car Association has now reached a period of growth which brings it beyond an organizational stage. You are now a member of a large and purposeful group and the Association, Officers, business affairs and proceedings should have dignity and your respect. It is now time to call our Annual Championship Races

(Continued on page 38)



It's about time we introduced this guy to you—Eddie Fitzgerald, Secretary of the AMRCA!

SPINDIZZIES ROLL AT EUSTIS

FLORIDA Spindizzies gathered at Eustis on Sunday, May 25th, for another big day of racing. Fifty cars were entered for the meet, with the Protos outnumbering the Spur Gears 31 to 19.

High speed in Proto was turned in by C. Taylor of Miami, knocking out 95.44 MPH with a brand new car he just completed. W. Geiger of Jacksonville was first in Spur with 100.44 MPH. The only mishap of the day occurred during the second heat of the Proto events, when H. Allen of Daytona Beach was timing his new car. The cable broke and his car crashed into the fence, practically demolishing the car (see photo).

Speeds were all off a few miles due to the humid weather. W. T. Thomas, Daytona, entered his Number Two Car and placed fifth. Later in the day, he made an exhibition run with his world's record car, turning in 112.50 MPH. Other results follow:

SPUR GEAR	MPH
1. W. Geiger, Jacksonville.....	100.44
2. H. Hansen, Miami.....	99.22
3. F. LaRoe, Eustis.....	98.90
4. F. Gammo, Miami.....	96.46
5. W. T. Thomas, Daytona.....	96.35

PROTO	MPH
1. C. Taylor, Miami.....	95.44
2. F. Ironmonger, Jacksonville.....	93.84
3. H. Hansen, Miami.....	93.26
4. W. Charles, Miami.....	93.26
5. W. Long, Miami.....	92.40

TRENTON OPENS SEASON

THE Trenton Club officially opened their racing season on May 31st, having a cool, clear day, which attracted fifty entries. Many old timers showed up including Franny Wolf, William Flinn, Stan Prussian, Jack Mayhew and one other old timer whom almost everyone will remember, De Palma. AMRCA President Glen Mathews of Rockford,



Left—H. Allen, Daytona Beach, was timing his car at the Eustis meet, when the cable broke and the car crashed into the fence. Result? Well, look for yourself! Right—C. Taylor of Miami who placed first in the Proto event at Eustis with this car he just completed.



Ill., was also there, taking first spot in the Spur Event with a car he ran for Red Davis of the Harvey Club. Jack Mayhew unveiled a new spur job and it certainly was a beauty. Apparently he was more interested in ironing out a few wrinkles than trying to win as he never called for an official timing. *Look out, fellas, if he ever gets that job to hit top speed! Let's hope he does this soon.*

Mr. Beard, that genial genius from Haddonfield, N. J., hooked up a new electric eye to the timer used at the Trenton track. Mr. Beard has been working for some time on his new electric eye and for the first heat it worked perfectly. At the start of the second heat, while the electric eye still worked to perfection, some trouble developed in the timer mechanism itself and had to be disconnected. Four volunteers with stop watches were called for and the racing continued with the average of the four watches being taken.

The Trenton Club promises that repairs to the timer as recommended by Mr. Beard, will be faithfully carried out and it is hoped no more failures will be experienced.

PROTO (Non-Mfg.)	MPH
1. W. Martine.....	93.93
2. J. M. Hollidge.....	93.55
3. H. Fox.....	91.83
4. A. Ford.....	89.64
5. T. Jacobs.....	88.58

PROTO (Mfg.)	MPH
E. L. Luke.....	105.14
Wm. T. Flinn.....	96.05
J. Cululi.....	94.73
H. W. Frank.....	94.53
A. Remez.....	94.14
B. Schulpbach.....	93.55
W. McWilliams.....	90.90
E. B. Stecher.....	88.23
V. Padilla.....	85.75
C. Poterala.....	85.71
G. McKim.....	84.90
G. Hillman.....	84.74

SPUR GEAR	MPH
"Red" Davis.....	112.21
J. B. Thorpe.....	111.80
S. W. Prussian.....	108.30
G. Mathews.....	107.39
H. W. Frank.....	105.88
R. Miller.....	105.14
J. Jaciow.....	104.77
P. A. Schlosser.....	103.56
N. Normandeau.....	102.73
J. McAllister.....	101.80
A. Remez.....	101.12
J. G. Beard.....	100.55



Photos by Christian Studios

Some of the contestants which competed at the Eustis, Fla. race, held on May 25th.

ONTARIO INSTALLS NEW TRACK

THE Valley Miniature Race Car Club of Ontario, California, have just completed a new 84-ft. track which was laid on the inside of their old 105-ft. track. The new circle has promises of being a very fast track, as some exceptional speeds have been turned in practice runs.

On May 24th and 25th, the Valley Association sponsored an IMRCA Sanctioned Race. The meet drew 89 contestants, who declared the two-day race a howling success. Fast speeds that were anticipated were lacking due to the unusual California weather.

Outstanding contestant during the meet was Val C. Yoakum of Temple City, Calif., who arrived early the first day with a Mfg. Proto, tool box and his conventional wheel chair, to pit his racing luck with the other entries. Once inside the pits, Val went to work on his fast Proto, using a portable work bench which was fastened to the front of his wheel chair. His car was ready for the track when his number was called. As his car started its run, our good friend Yoakum was right at the starting line with stop watch and his trusty wheel chair. He showed some of the old timers what a real race car hobbyist could do by bringing his little red Proto into 14th spot and received a nice trophy for his efforts. *Stay in there and pitch, Val, you've got the stuff that will make a sure winner.*

Other high lights of the meet were the Non-Competitive runs of Dick McCoy and the Dooling Bros. (Harris, Tom, Hank). Dick captured the top speed honors of the meet by turning in fastest times in both Spur and custom Proto Classes.

Bert Torrey set a new IMRCA record for the Mfg. Proto at 104.40 MPH. He took the record away from his brother Roy, who established the first official record a month previous at the San Jose Race of 103.92 MPH. This Class has developed into a little family argument as far as records are concerned. If this continues, the Torrey Bros. will hang up a record that will stand for some time.

Complete results of Ontario Race follow:

SPUR GEAR		
NAME	CAR-MOTOR	MPH
D. McCoy (NC), McCoy-McCoy		116.12
C. Lamb, McCoy-McCoy		114.35
J. Grijalva, McCoy-Hornet		113.06
W. T. White, McCoy-McCoy		111.80
L. Owen, McCoy-McCoy		110.70
R. Torrey, McCoy-McCoy		110.29
A. Anderson, McCoy-Hornet		109.48
B. Torrey, McCoy-McCoy		109.22

MFG. PROTO		
B. Torrey, Invader-McCoy		104.40
R. Torrey, Invader-McCoy		104.28
C. B. Lamb (NC), Invader-McCoy		103.92
D. Shawver, Invader-McCoy		103.68
H. Newsome, Invader-Hornet		103.56
D. McCoy (NC), Invader-McCoy		103.56
A. Poore (NC), Dooling-Dooling		103.21
H. Dooling (NC), Dooling-Dooling		101.01
E. Yost, Jr., Invader-Atomic		98.90
J. Burdick, Invader-McCoy		98.79
S. Street, Invader-McCoy		98.57
J. Grijalva, Dooling-Hornet		98.14
A. Anderson, Invader-McCoy		98.03
E. Stewart, Invader-McCoy		97.82
J. Gilcrest, Dooling-Dooling		97.50
G. Yost, Invader-McCoy		97.29
E. Yost, Sr., Invader-Hornet		96.77
V. Yoakum, Invader-McCoy		96.77

July, 1947

CUSTOM PROTO

D. McCoy (NC), Special-McCoy	106.88
A. Poore, Special-Dooling	104.28
W. White, Fox-McCoy	104.28
A. Smith, Special-Hornet	104.04
W. White, Fox-McCoy	103.80
T. Dooling (NC), Special-Dooling	103.56
J. Gilmore, Jr., Special-Hornet	100.89
N. Carter, Special-Hornet	97.82
E. Schulz, Special-McCoy	97.50
W. Carter, Special-Hornet	95.03

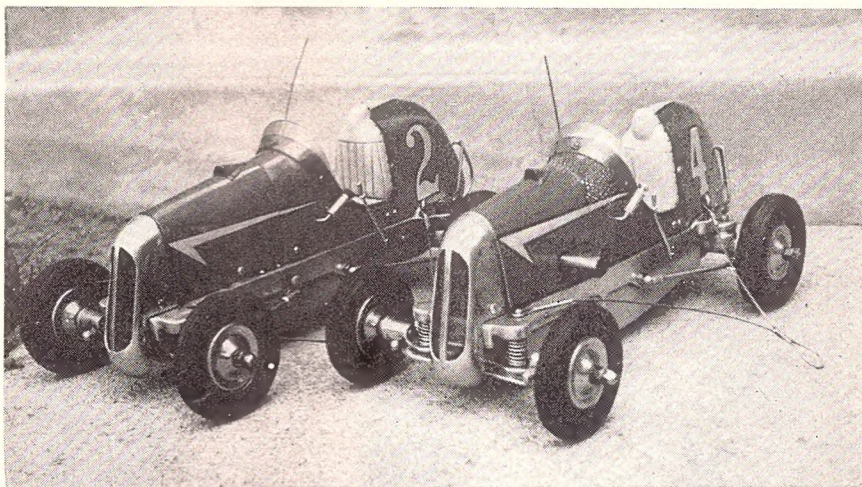
HOT ROD

Wm. Bess, McCoy Engine	90.27
Dean Fisher, McCoy Engine	89.91
Frank Heacox, McCoy Engine	87.37

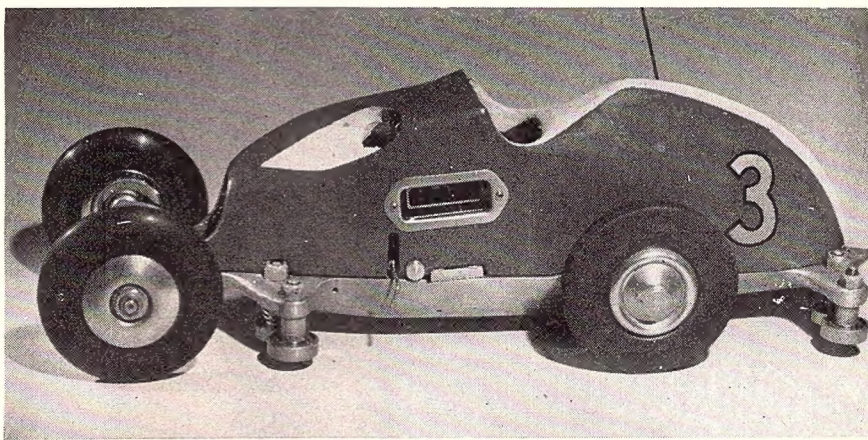
KOKOMO FLASH!

LAST minute word was received from Bob Chapman of the Kokomo Miniature Race Car Club in Kokomo, Ind., advising that the boys have started work on their new track. Forms have already been set and it's just a question of waiting for good weather before concrete is poured.

With good luck, the boys will probably be running by this time and extend an invitation to all men in Central Indiana and surrounding country to visit them and tryout the new track.



Two protos owned by Mel Baker of the Pueblo, Colo., Club. Both are scale jobs, 18" long, weigh 7 lbs apiece and have a 12½" wheelbase. No. 2 shown at left is Mel's old Cyc job, while No. 4 is Hornet-powered. (Watch next month for results of the Pueblo Meet)



This "little bug" just broke all existing Chicago speed records (both streamline and Proto) by breaking 80 MPH, and for riding on Rail ... that's riding!

ALL RAIL RECORDS BROKEN

ON the afternoon of the 24th day of May, a little cream and red colored Proto streaked out and broke all existing Chicago M.R.C.A. rail records. This includes both Proto and Streamliner records! The "dog class" cars as we have always referred to the conventional class, left the entire field by the wayside. Brother ... that little car goes like a bat out of ...!

The little bug broke 80 MPH. She qualified a quarter of a mile at 11:13—80.86 MPH. She did better in a mile

race, from a standing start. She did 11.81—76.21. Brother, that's fast for a rail car! The best previous time from a standing start was in the vicinity of 72-73 MPH. In that last race, she was timed for a quarter mile and was doing better than 83 MPH.

The little job was designed by George Riff with the cooperation of yours truly. The car is owned and built by the writer. Having my fingers crossed, I'm hoping to break 85 MPH! ... Frank Pawlikowski.

MODEL PO

FIFTH ANNUAL PHILADELPHIA REGATTA

1—Bernard George, of Baltimore, gets ready to release his Class E entry. Note the unusual deck design.

2—C. White, of the Philadelphia Club, prepares to launch his Class E boat as Harry Raker, of the New York Club, looks on.

3—W. Martens, of Hampton Roads, Va., with his Class E boat, powered by one of the newer 10 c.c. engines. Mr. Martens won third place in the Class E event and first place in Class B.

Photos by Graham

By BEN KAUFMAN

THE model power boat racing season for the Eastern Circuit officially opened on Sunday, May 25th, with the Fifth Annual Philadelphia Regatta. Racing was hampered somewhat by a rather heavy "California Dew" which gave everyone plenty of exercise going to and from shelter. Despite the inclement weather, the regatta was a great success with thirty-two boats entered.

A new Class D Eastern Circuit record was made by Harry Traband of Philadelphia doing a neat 56.68 MPH. Ray Seavey, who finished first in Class E, would never have made it but for a roll of adhesive tape with which he repaired the broken sponson on his boat. Everyone was of the opinion the tape improved the performance. Who knows, the next regatta will have all boats covered with adhesive tape!

Among the unusual designs was Ralph McDermott's new type engine mount which mounts a standard Hornet in a horizontal position with an air scoop mounted on the deck to supply air for cooling purposes. Bob Graham and Martin Waller both had engines equipped with magnetos. These engines are the first to be seen in Eastern Circuit racing.

Many new hulls were seen which really had no opportunity to show what they could do because of the rough weather causing comparatively low speeds. From what could be seen, it was certain that much faster speeds could be expected from all classes in the races following.

List of winners at the May 25th meet follow:

CLASS A

- 1st — J. Sparr, Baltimore, Md.
- 2nd — B. Kaufman, Philadelphia, Pa.
- 3rd — J. Hemple, Philadelphia, Pa.

CLASS B

- 1st — W. Martens, Hampton Rd., Va.
- 2nd — J. Thorp, New York, N. Y.

CLASS C

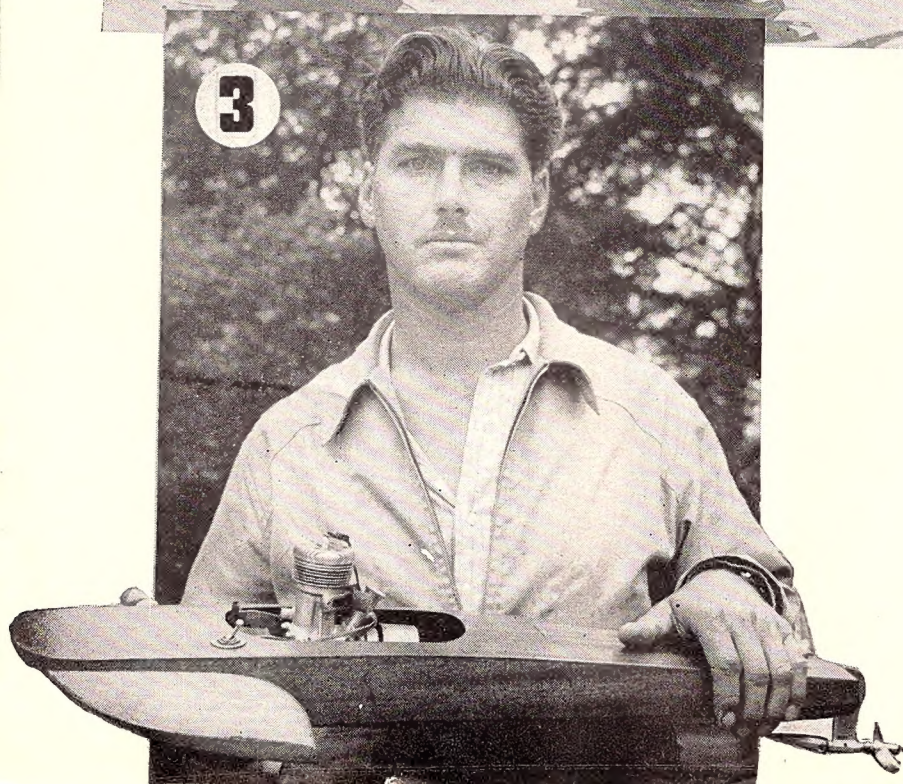
- 1st — J. T. Sollers, Baltimore, Md.
- 2nd — R. Buress, Baltimore, Md.
- 3rd — M. Waller, New York, N. Y.

CLASS D

- 1st — H. Traband, Philadelphia, Pa.
- 2nd — R. Buress, Baltimore, Md.
- 3rd — J. Stuffer, Philadelphia, Pa.

CLASS E

- 1st — R. Seavey, Philadelphia, Pa.
- 2nd — R. McDermott, Philadelphia, Pa.
- 3rd — W. Martens, Hampton Rd., Va.



WATER BOATS

HI-SPEED IN HAWAII

The Emma Hot Rods put on a regatta:

1—Nizae Yashima, high speed winner of the regatta with 65.21 MPH. The boat to the extreme right piled up a total of 215.42 points.

2—Meet the grand winners of the regatta, left to right: Nizae Yashima, high speed winner at 65.21 MPH. High score winner Richard Lau, with 215.42 points. Second place, Allen Kanemura, 202.29 points. Third place, Timothy Fo, 190.78 points. Fourth place, Philip Toma, 163.63 points.

3—These are the boys who competed—The Emma Hot Rods.

4—Bringing his baby home—"Over the finish line"!

THE model speed boat fans of Honolulu, Hawaii, better known as the "Emma Hot Rods," have been lapping up every bit of news they can find on their American brothers in the U. S. A. But they aren't taking any back seat while doing it, for some of their speeds are on a par with those in this country. All indications point to some good speeds being developed in Hawaii in the near future.

The Emma Hot Rods held their regatta on April 20th and 27th with a total of 27 entrants. Four official runs were allowed each contestant, two runs for each boat on each day of the race. A point system was used to determine the winner, the scores being based on one point for each mile per hour and fraction thereof. For example, if a contestant's speed for a quarter mile run is 65.21 MPH, his score for that particular run would be 65.21 points.

The weather was windy and the water choppy—a bad combination. The boys experienced lots of somersaults and nose-dives. Highest speed of the regatta was 65.21 MPH made by Nizae Yashima using a homemade redesigned O-GEE hull and a stock McCoy engine.

The boys are going after the American Record of 70 MPH in Class D and E. They are still new at the game but have the advantage of running their boats in a saltwater pool, plus a climate that permits them to run boats twelve months of the year.

High speed runner up scores were 63.38 MPH, 59.60 MPH, 58.06 MPH, 56.96 MPH, and 55.90 MPH. All contestants were using standard O-GEE and redesigned O-GEE boats, powered with stock Hornet and McCoy engines.

The Hot Rod boys would like to get hold of some magnetos for their motors, if some boat fans are kind enough to tip them off where they can be found. Contact Richard Lau, 1353 Emma St., Honolulu 43, Hawaii.

ATTENTION - BOAT FANS

THIS publication would like to have all possible information on your club and individual member activities. Send us photos of your equipment. We want to show the other fella what YOU are doing!



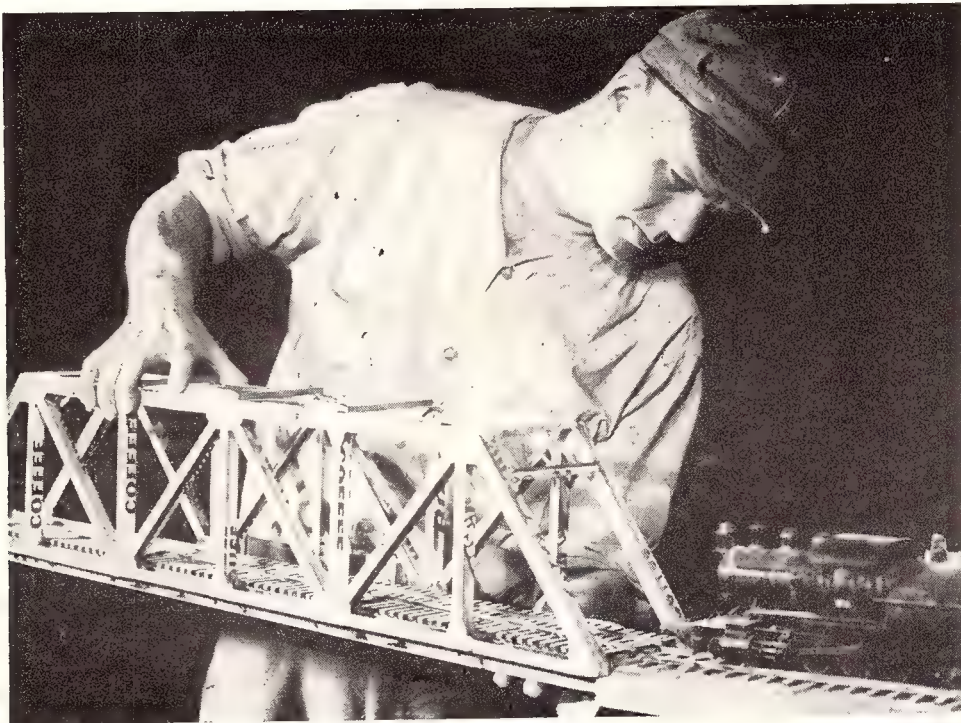


Photo by Haddad

The author adjusts the removable truss bridge into position while the "Special" waits patiently on the single track branch. A design such as this may be used in many different ways to add extra detail and still serve its purpose. Warren hasn't sold "billboard advertising" on his bridge. Those coffee signs on the girders happen to be from his "raw material"—coffee cans! A coat of paint, and the bridge is made from steel girders!

Truss Bridge

By WARREN B. CRATER

THIS O-gauge truss bridge is not a scale model of any particular prototype, but instead a model designed to fill a very definite gap on my road. My layout includes a single track branch which crosses the cellar at a most inconvenient location, preventing access to the gas, electric and water meters and also to an addition (cellar extension) through which the main line runs. It proved necessary to leave a space at this point to permit the utility men to perform their regular duties. Desirable as a working draw span may be, it was considered impractical due to insufficient head room. It was then that a decision was reached—design a removable truss span which appears permanent when in place!

The gap to be bridged was not of conventional size and so no prototype could be found as a model. This through necessity became a case of fitting scale design to a particular need in much the same manner as the actual prototypes are designed.

Using accepted specifications and working to scale, the accompanying drawing was made and a baseboard to the track was worked in. Its thickness represents the height of I-girders which carry the track and its width equals the spacing of the girders. On a flat board, lay out in pencil the entire truss including all girders and gusset plates. This will be used as a template for assembling both trusses.

Tinplate from old cans is a cheap material and easily obtained, the usual 1-lb. coffee can being the handiest (see Fig. 1). Remove the inner ring from top of can. Cut each side of soldered seam all the way to the crimp at the bottom. Bend the seam inward out of the way and cut as closely as possible to bottom edge. When

straightened out, this leaves a sheet about $2\frac{1}{2}$ " x 16", after cutting the flange from top edge. Several of these will be needed for the girders. All girders are cut and flanged from this tinplate. Angles are simple; the H-girders are two channels soldered back to back and box girders are channels and flats soldered.

All scribing should be done on the lithographed side of the metal, as this will be the inside of all bends; soldering is to the outside which is clean.

To make up $\frac{1}{4}$ " x $\frac{1}{4}$ " angle, cut strips of tin $\frac{1}{2}$ " wide and of sufficient length (other sizes in proportion) and scribe a center line, fig. 2. Hold in vise between two metal strips with scribed line at edge of strips. Bend over to 90°, using a piece of wood as long as the material and hammer so as to bend the full length at one time.

When making the channels (fig. 3), cut strips of tin to a width equal to the channel plus the two flanges or 1" for $\frac{1}{2}$ " x $\frac{1}{4}$ " channel. Bend as for angles. It is obvious that the strip used inside the bend shall not be wider than the channel to be bent over it.

While laying out this work, cut to exact length and lay on the template to keep them in place.

To make up $\frac{1}{2}$ " x $\frac{1}{4}$ " T, solder two pieces of $\frac{1}{4}$ " x $\frac{1}{4}$ " angle, back to back (see fig. 4). The angles may be held between strips of wood while soldering. H-girders are made by soldering two channels back to back (fig. 5). For $\frac{1}{2}$ " x $\frac{3}{8}$ " H sections, $\frac{1}{2}$ " x $\frac{3}{16}$ " channels are necessary.

The box girders (fig. 6) are made from two channels and two $\frac{1}{2}$ " flats soldered together. This is best done by butt soldering the channels, then tinning the

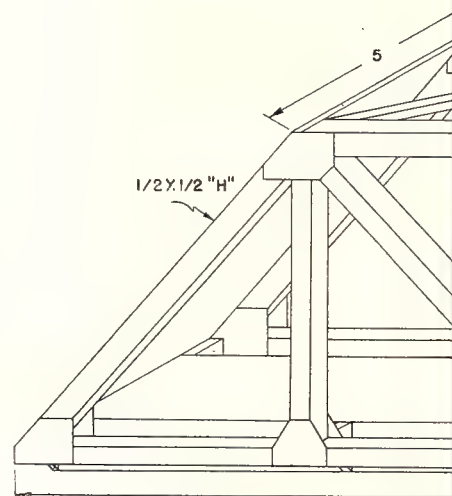
flats and sweating them in place on the channels.

Lay all girders on the template (one truss at a time). Cut the gussets, tin and sweat them on the side that is face up. Turn the entire assembly over and sweat the gussets in place on the other side.

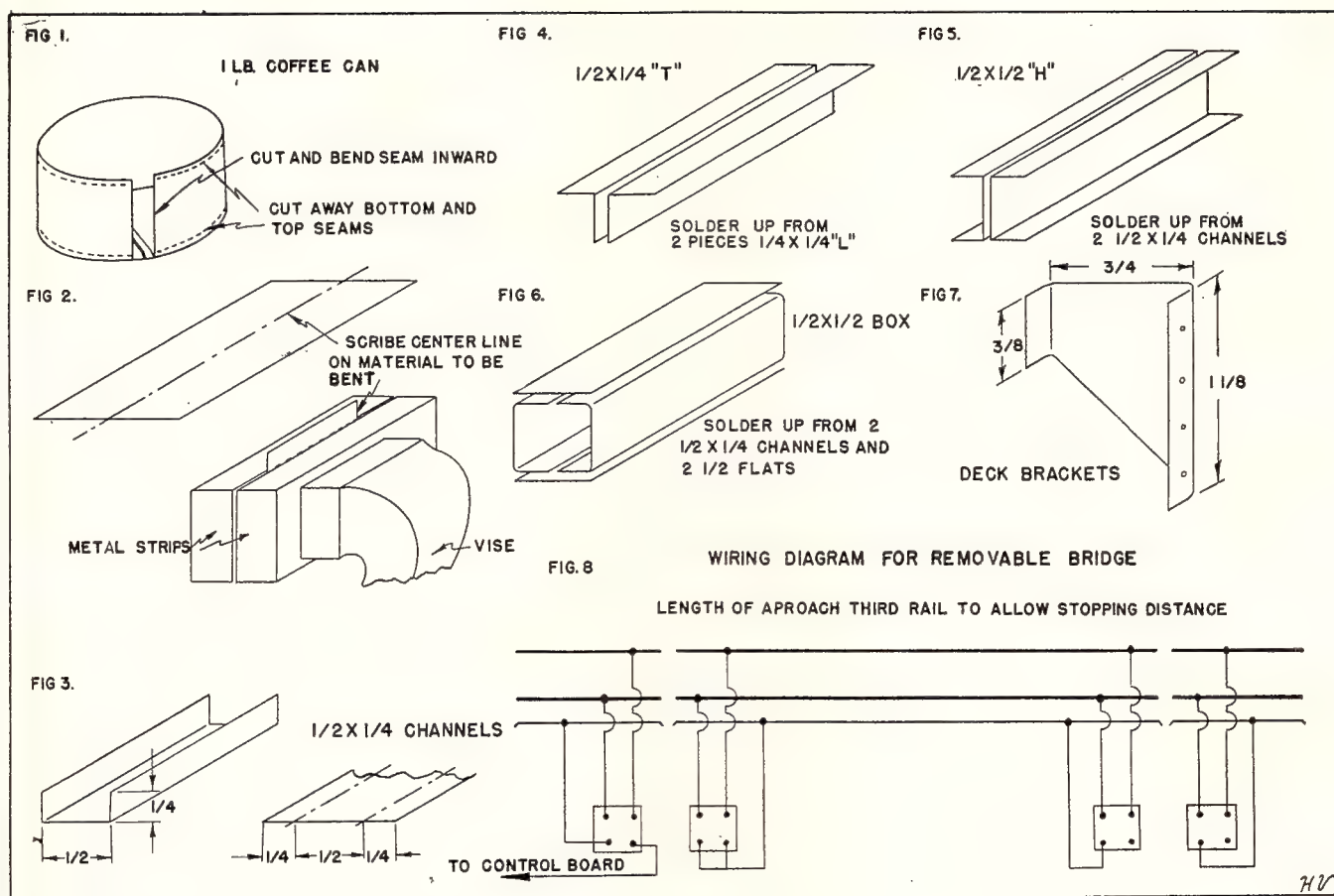
The deck brackets are now cut and bent as shown in fig. 7. Attach these to the track base board with $\frac{1}{2}$ " nails. Strips of tinplate should be attached to the bottom of the base board, extending $\frac{3}{16}$ " as the flange of the girder it represents. Lay the track, using ties 4" long and closely spaced.

For electric connections and track alignment, use a four prong plug and

$\frac{1}{4}$ O-Gauge



The Model Craftsman



receptacle of the type where both members screw rigidly in place. Fasten the pronged members on the underside of the base board and receptacles in the abutments, so located that the track will line up properly. Wire your circuits as per fig. 8. Contacts #3 and #4 complete the running rail circuit; #2 the third rail; #1 at one end only leads to section switch on the control board. With the sections of third-rail approaching the bridge long enough to permit stopping, trains cannot run off the ends when the bridge is not in place.

Stand the trusses on the bench in relative position and solder the $\frac{1}{4}'' \times \frac{1}{4}''$

obtuse angles in place at ends of top members. Set the track section in place and solder the brackets (which were nailed on base board) to the bottom truss members, with top brackets even with top of bottom truss girders. Solder the T-irons in place; next the diagonal braces of $\frac{3}{16}'' \times \frac{1}{8}''$ angle. Solder one with the flange up and its mate with the flange down, soldering them back to back where they cross.

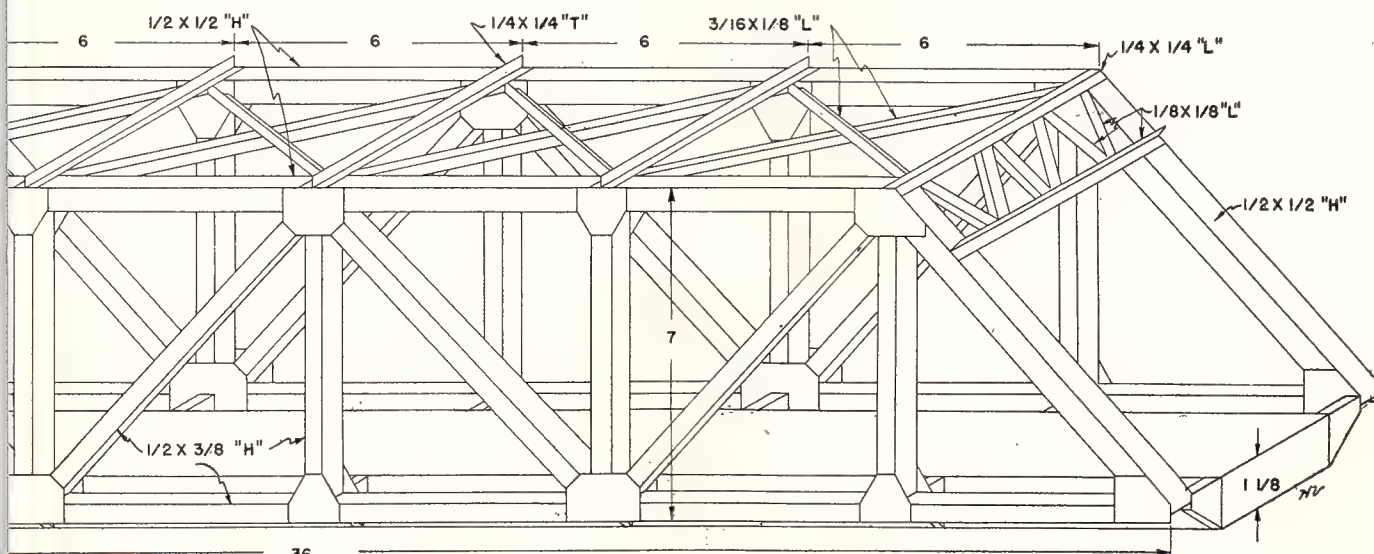
The $\frac{1}{4}'' \times \frac{1}{4}''$ angle can now be soldered to the box girders at the ends as shown in the drawing. The $\frac{1}{8}'' \times \frac{1}{8}''$ angle diagonal braces should be soldered to these and the obtuse angles

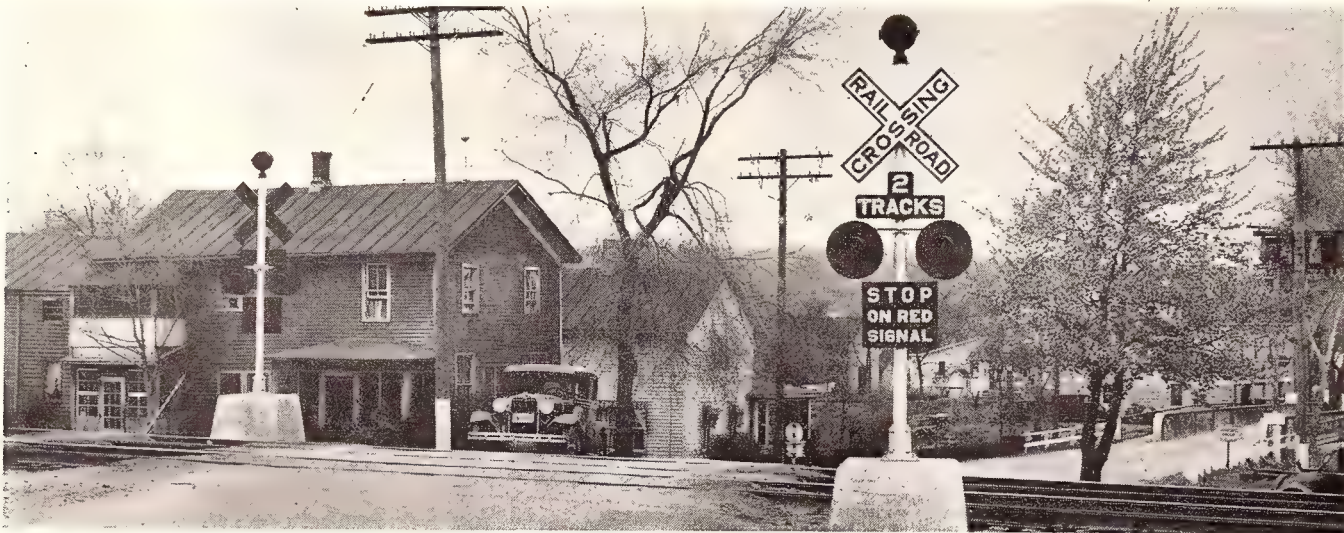
with their flanges inward.

The guard rails were omitted as seen in the photo, due to lack of material. With rail once again available, they will be installed.

The saddles which carry the ends of the trusses on the abutments can best be made of wood and fastened permanently to the abutments so that the trusses just rest on them when the bridge is in position. The base board really carries the track although the trusses will safely support a man's weight.

Two coats of flat black paint or a color of your favorite prototype will finish the job.





Flashing signal at Lehigh Valley crossing at Rush, N. Y.

Crossing Signals

MANY grade crossings on our model railroads are veritable death traps for both our miniature pedestrians and motorists. Installation of proper crossing signals and your traffic will be given necessary warning of approaching trains. Any of the types illustrated will prove practical for your model road.

Your signals may be track-controlled or direct from your control board, dependent upon the extent of your detail work. One electrical method of operating a flashing signal by means of two magnets is shown in Fig. 1.

Electric signal lamps may be housed

in a metal or other suitable housing and lamp sockets fitted inside. In some instances, lamp sockets are formed inside brass sleeves or tubes as one of the sketches shows. For ordinary signal circuits, one side of each lamp socket is *grounded* and thus becomes a "common" return; the other side of the circuit, made up of the individual control wires for the red, yellow and green lamps, are brought out of a hole in the top of the pedestal tube as shown and connected to the center terminals behind each lamp. (These terminals are insulated from the housing with fiber washers.)

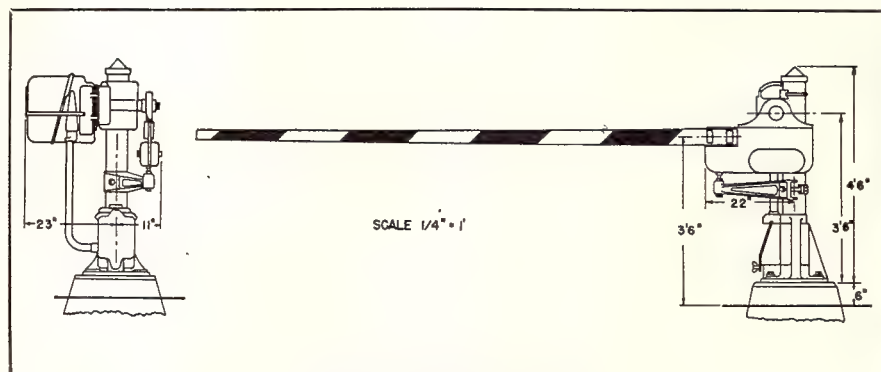
front cover plates fitted with colored gelatine screens and such fittings may be purchased at hobby supply stores.

The lamps used may be radio pilot bulbs or small surgical type lamps. Small flashlight bulbs are also used occasionally. Before you make up the housing or lamp receptacles, make certain what type lamps can be obtained so that sufficient space can be allowed for them. If not, you may find yourself with a signal into which no available lamps can be fitted.

When painting your finished model, the signal head on the background should be



Flashing Signal with arm unit on Erie Railroad grade crossing, Decatur, Ill.



Arm unit for flashing signal.

If the signal is to be used on a polarized circuit, one of the lamps should be insulated or arranged to be operated individually. In this case, two socket shells are connected together as in Fig. 4, and two center terminals joined together.

In making the signal, lamp bulbs themselves may be colored by dipping the glass bulbs in some sodium silicate or other solution, colored with an aniline dye (colored lamp frosting solutions available on the market may also be used). Some model builders may desire

painted dull black the mast or pedestal can be either white or gray and the base black or gray.

It is most desirable to provide some form of spring contact behind the lamp as the drawing shows. If a lamp of the type provided with leads soldered to the base of the lamp is used, the spring will not be necessary.

Some signals have shields and others are finished flat on the front with bull's-eye or color filter; both types are illustrated.

FIG.1

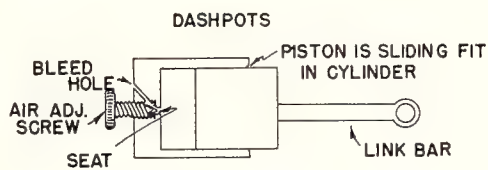
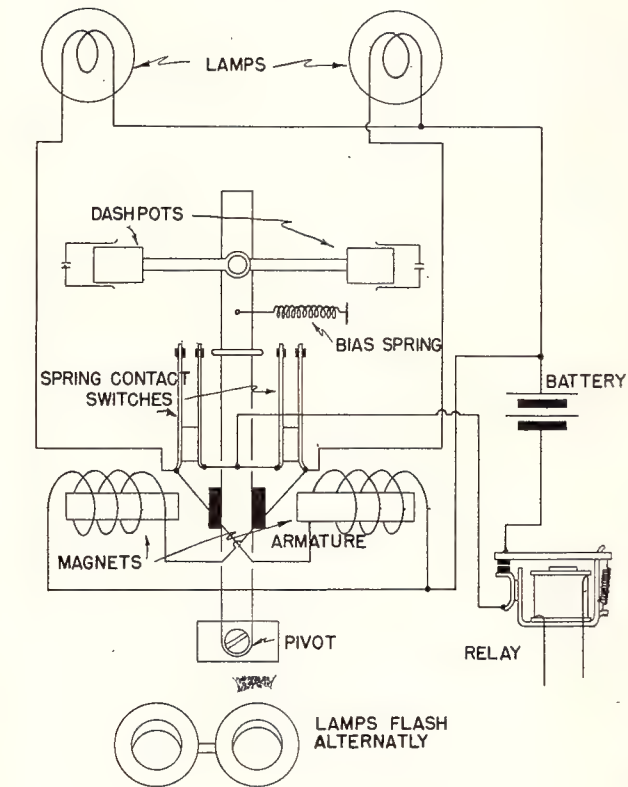


FIG.2

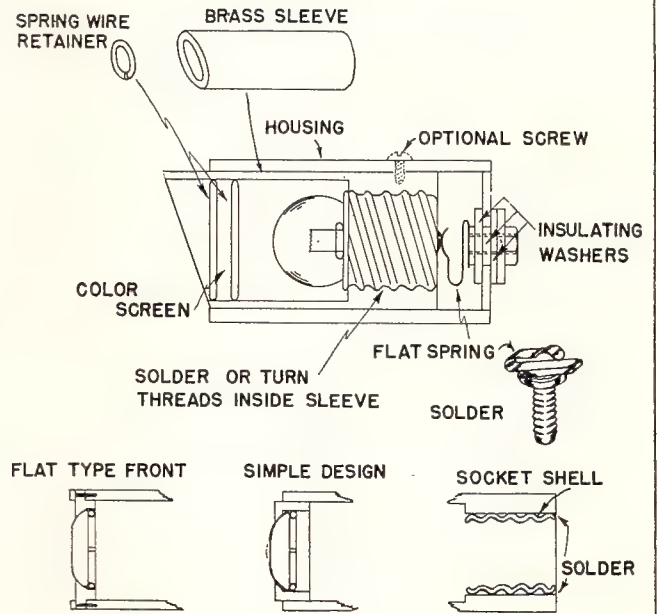


FIG.3

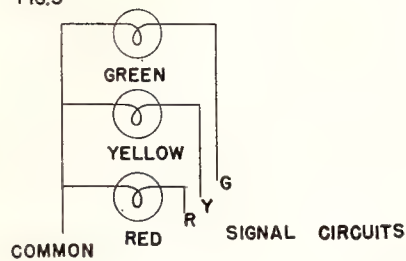
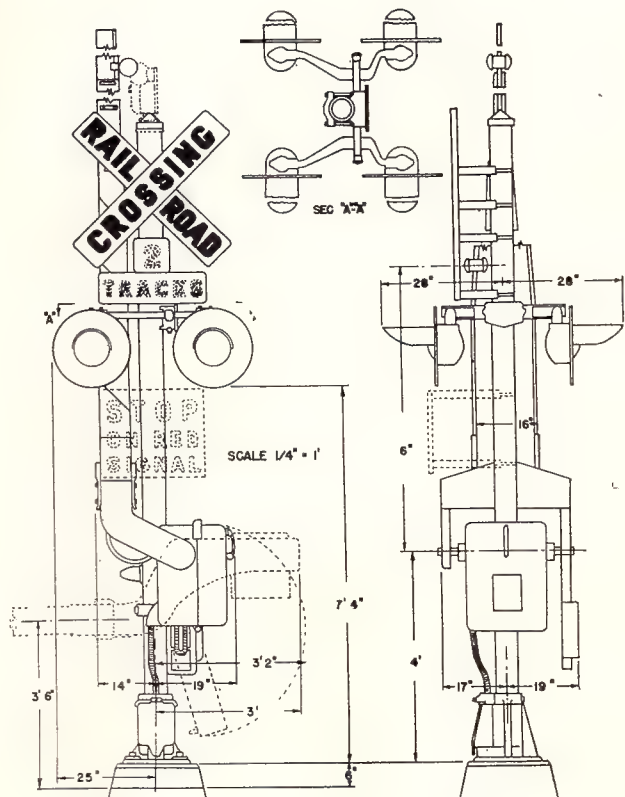
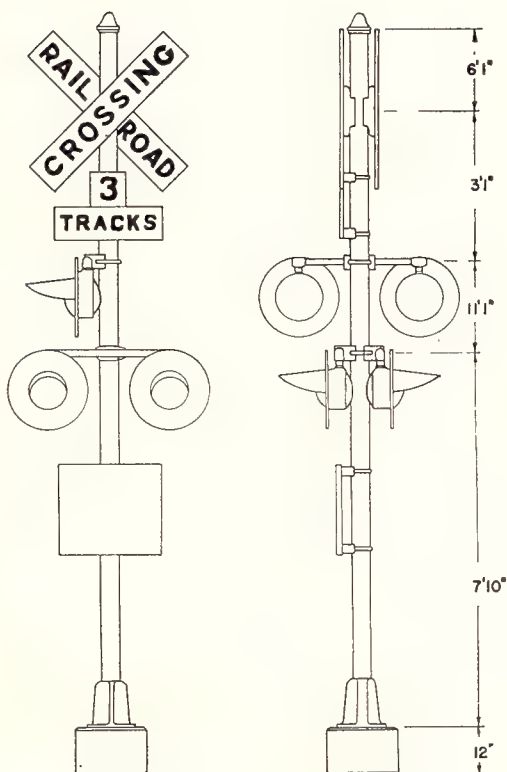
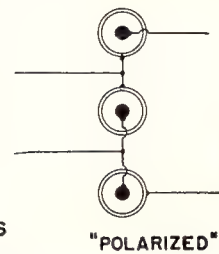


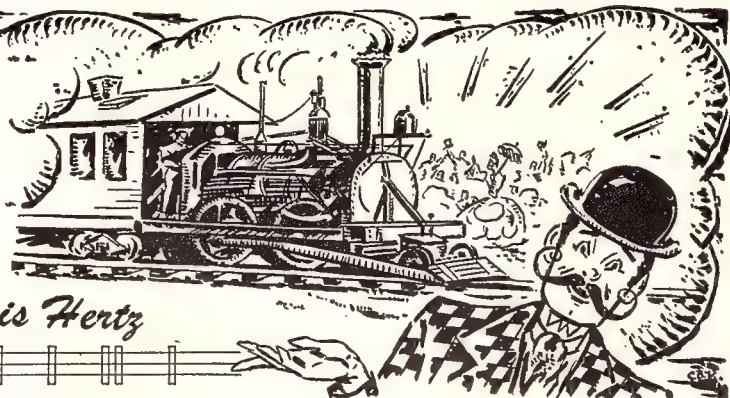
FIG.4



CARLISLE & FINCH

Part 1

along the tinplate track with *Louis Hertz*



FOR many reasons, the Carlisle & Finch Co., of Cincinnati, Ohio, continues to be one of the most interesting, and probably most important of the early two-inch gauge electric train manufacturers. Their very name evokes immediate memories of the entire pioneer era of American electric trains—of slotted wooden ties and strip steel rail; of locomotives and cars with wooden frames and floors;

of fascinating old catalogs, surviving to help trace out the childhood days of an industry which is not only today an important one, but whose entire history has become a romance.

The Carlisle & Finch Co. was established in 1894 by Morten Carlisle and Robert S. Finch to manufacture electrical goods. In 1896, their first train, a four wheel two-inch gauge, three rail street

car, was placed on the market. The following year a change was made to the two rail track system which they retained throughout the remainder of the time they made trains, and which was subsequently emulated by such other pioneer electric train makers as Voltamp, Howard and Knapp. For quite a few years, after all metal sectional three rail tinplate track became standard, the old two rail track was almost completely forgotten until revived for use on scale layouts perhaps a decade ago. At that time, a great many model railroaders were surprised to learn that there had been a time in the early 1900's when two rail was virtually standard for all electric trains.

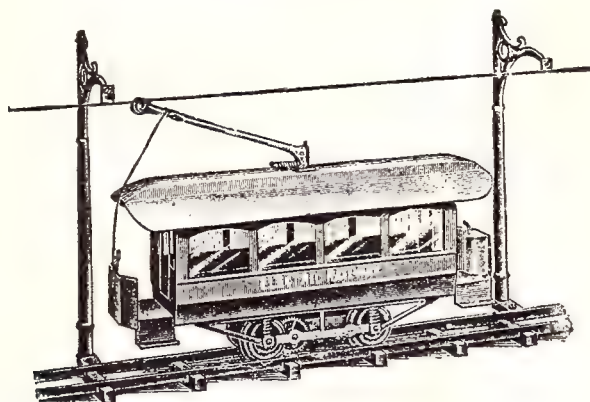
As a matter of fact, between 1897 and 1906 there were no three rail electric trains manufactured in the United States. Lionel reintroduced three rail with sectional tinplate track in 1906, and Ives and Elektro followed a few years later. Voltamp, however, continued to manufacture two rail tinplate until 1923.

For a while, it was regarded as proven and established beyond any doubt that the Carlisle & Finch "Electric Railway" of 1896, their first little street car, was the first tinplate electric train ever manufactured in the United States. Comparatively recently however, some claims have been advanced in favor of Jehu Garlick, Paterson, N. J. manufacturer of live steam locomotives. Garlick, it is asserted, actually produced about 200 miniature electric locomotives in the fall of 1895 and therefore antedates C & F by about one year.

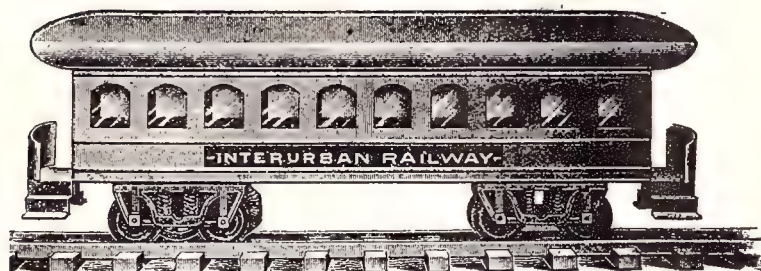
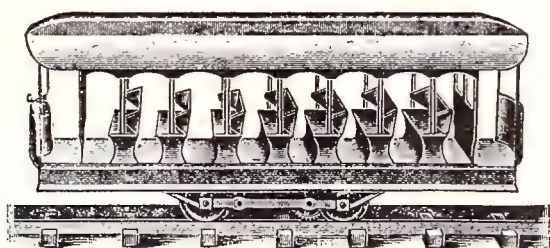
This is a matter which probably will remain in dispute yet for some little time. Burden of proof necessarily rests on the supporters of Garlick, and while he no doubt did produce a hitherto unknown electric train, there are many who do not feel it has been satisfactorily shown these models were actually made in or before 1896, and not sometime in the following decade.

As a matter of information while on this point, we may hint broadly here that there is likely to be a very interesting story coming up soon concerning an extremely early electric train in which Ives was concerned! This matter, on which some pretty concrete proof already exists, is now under investigation. Results will possibly shed some definite light on the Carlisle & Finch and Garlick claims. The entire story is

(Continued on page 42)



Around 1905-07, Carlisle & Finch supplied some of their deluxe four wheel street car models with working trolley poles to pick up current from an overhead wire. Here is their No. 18 car, their most elaborate four wheel closed style.

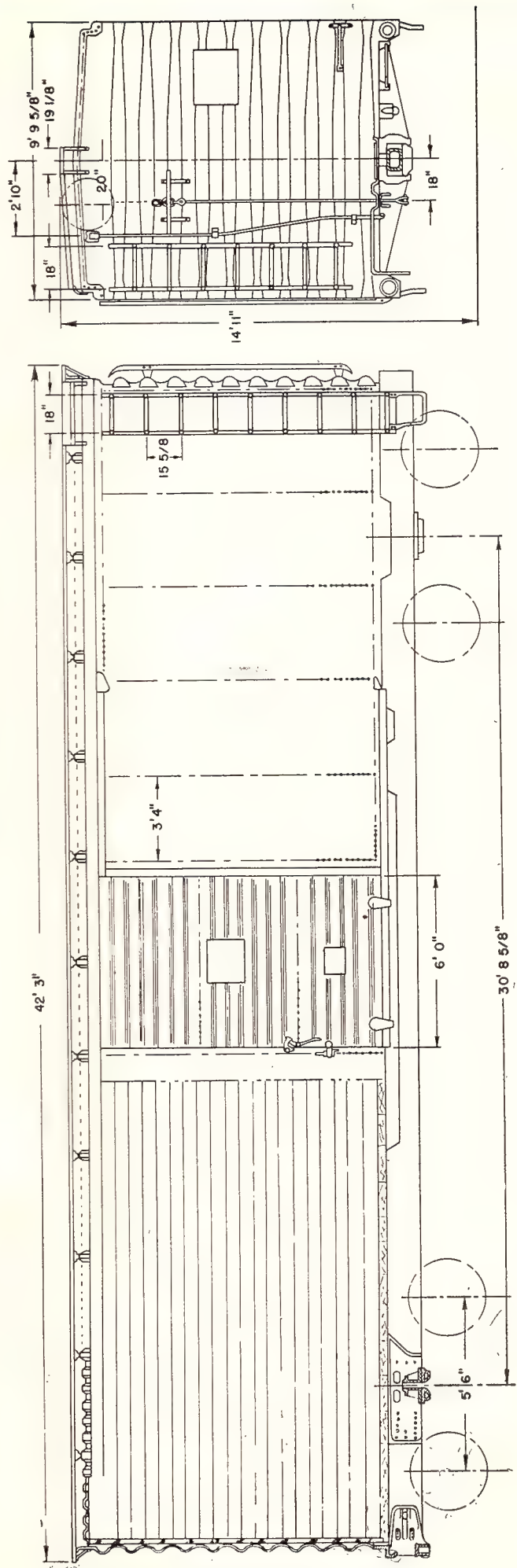
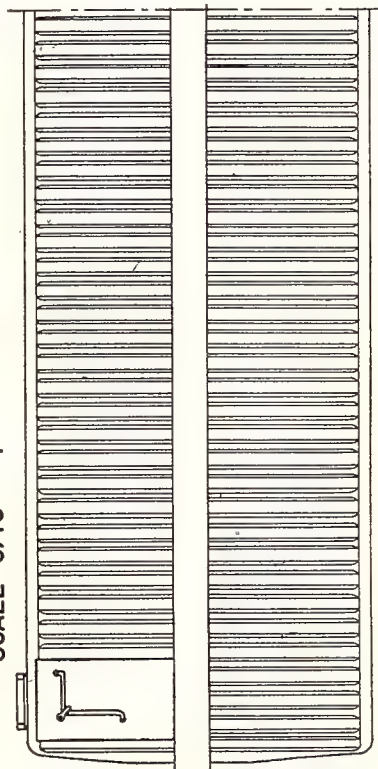


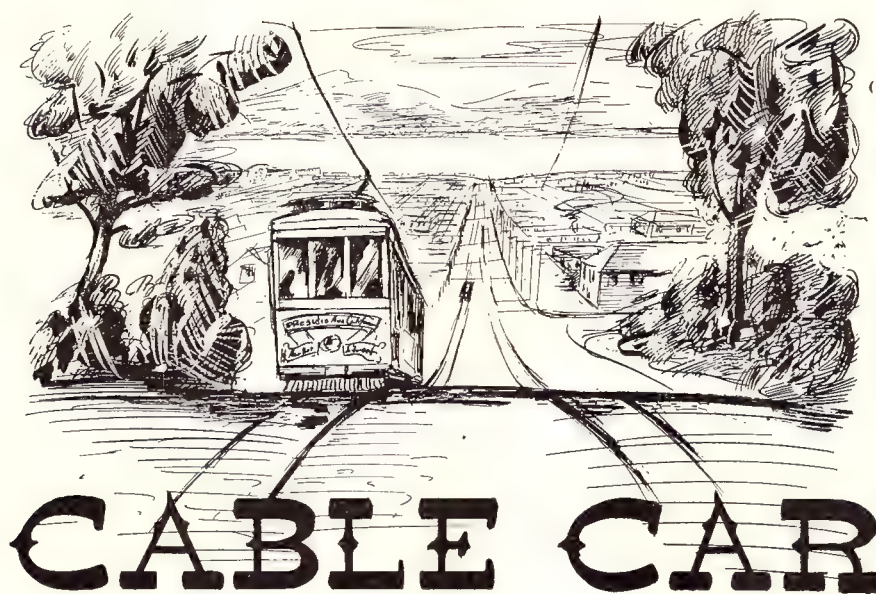
Two of the better Carlisle & Finch trolleys. Upper car is their No. 19 open or "summer" car, with backs on the seats which could swing over to face either direction. Lower car is No. 2 interurban as manufactured from 1904 to 1907. The car was 19" long. Note the old strip steel rail set in slots in wooden ties.

ROUTE OF *The* 400

BOX CAR

SCALE 3/16" = 1'





RECALLING both the glorious past and colorful history of these Cable Cars, we sadly witness the losing battle now being waged as these cars are slowly being forced off the streets of San Francisco. For ever since 1873, the California Street Cable Car has served San Franciscans for both business and pleasure transportation. Despite an apparent lack of efficiency considering their age, these cars alone are responsible for attracting many of California's tourists.

The Cable Car was San Francisco's answer to their steep hill problem, taking the most precarious hill in their stride as part of a daily routine. Their very name comes from the motive mechanism, the cars being propelled by means of a moving cable beneath the street. Each car attaches itself to this cable through a slot in the street surface by means of a "grip."

With these cars rapidly being pushed out of the picture, many rail fans will find this an ideal model for either your working railroad or mantle. Simple tools

are all that are needed, plus a pair of O-gauge trucks if a working model is to be made.

Your first problem will be to make up dummy trucks (*display model only*). Use small blocks of pine as a base for your truck and to this cement small wooden discs of correct diameter for truck wheels (*sections of wood dowels*). Cut out truck sides from bristol and cement over the wheels. Bumpers are also cut from bristol and cemented to extreme ends only of front and rear trucks. These bumpers are painted gray and balance of truck, black.

The front and rear of car is next built up as shown in fig. 1. The wooden sections ($\frac{1}{8}$ " bass) should be drilled $\frac{1}{4}$ " for headlights, and painted maroon on the outside and buff on inside. Cement piece of tinfoil across back of drilled hole to give headlight effect. Bristol window cutouts are painted buff. These are cemented to sheets of plastic or celluloid and the unit then cemented to wooden section.

The main body assembly consists of the floor, base, four steps, four outside seats, two inside seats and two panels for ends of cab. Make up steps as shown in fig. 2 and cement to under edge of floor in proper locations. Paint this assembly gray.

Shape the inside seats (2 req'd) as shown in fig. 3 and paint buff on inside. Upper half of outside is painted maroon, lower half, gray. Cement in place as indicated.

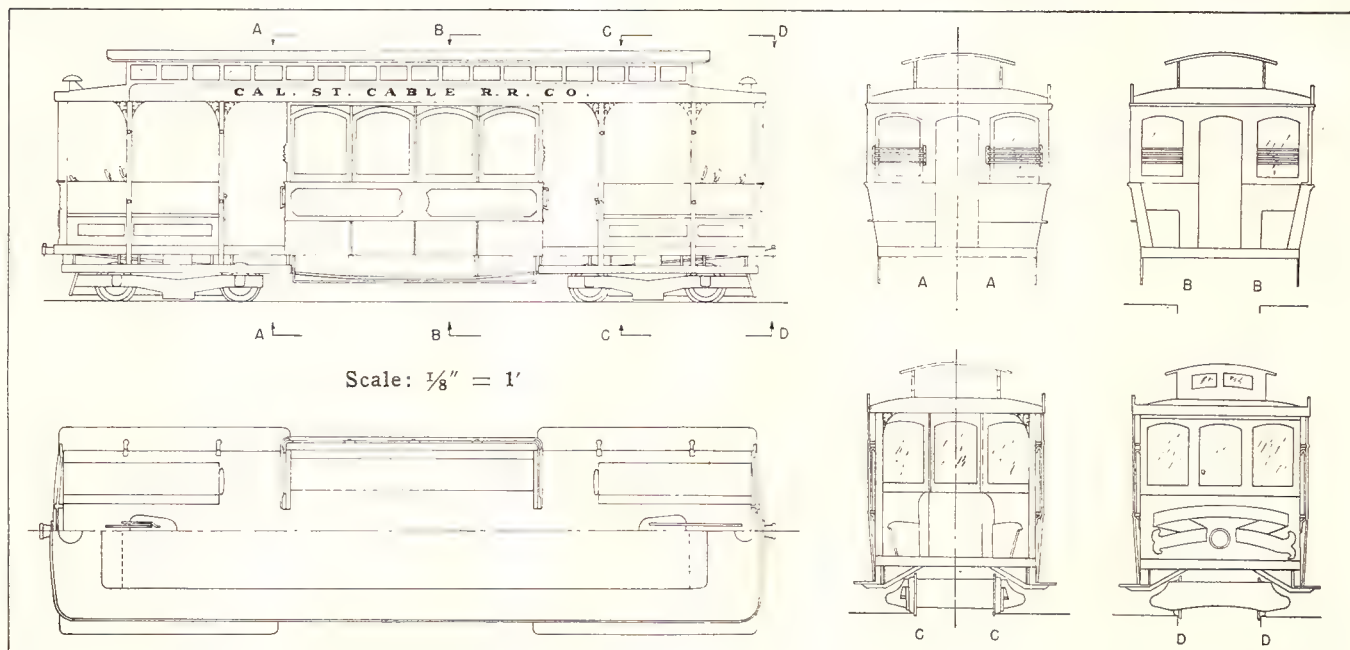
The end panels which close off the cab (fig. 5) are painted buff on the inside. The outside should be painted to correspond with the sides of cab. The center section may either be cut away or painted buff to simulate a door. These panels are now cemented against the inside seats.

Make a slot in the floor, centered between outside seats as shown. Paint cardboard grips (fig. 6) black and cement in slots in upright position. The outside seats are next made to shape and painted buff; when dry, cement in place on floor (fig. 4).

The cab windows are cut to shape from bristol (fig. 7). The open framework is painted buff. Measure up your window material (either plastic sheet or celluloid) to same size and trim; cement framework to this material. The two arched cardboard window strips should be painted white and cemented over the buff framework. Crease windows at the corners and cement on body. Small pins or brads may be inserted in corners of the wooden base, giving a point to anchor the windows.

Make up roof as per plan, beveling both ends and sides to center flat. Cement the two long strips of cardboard to edges as shown in fig. 8. Paint entire assembly maroon, top and bottom.

The wooden ventilator or clerestory is made up at this point to be cemented to the roof (fig. 9). This should be painted gray and the cardboard vent strip cemented over the sides. The unit is now cemented to the lower or main roof. A cardboard strip makes up the topmost roof and is painted maroon and cemented



to the ventilator. Hold in place with rubber bands to get correct curvature.

The assembly is now completed by cementing the end sections to the outside seats as indicated, followed with the roof unit.

Stanchions are made from fine dowels and must be measured before cutting so they will fit exactly between roof and base. Twelve handrails are made up from smaller dowels, eight of them being attached to the stanchions. These reach the roof at the top, while at the base they extend to the step. When painting, divide the handrails with a pencil mark into three evenly divided sections. The upper and lower thirds are black, and the center, white. Before cementing to the stanchions, handrails should be curved slightly. Make small notches with a knife directly in back of point to be bent to facilitate the curvature. The fancy metal work (triangles) can be made up from pieces of celluloid properly marked with india ink. Cement flat against stanchions at top on inside.

Four front and rear handrails, painted white, should be bent, notched, and cemented to the window sections. Bells, located at either end of roof, are simulated with dull brass upholstery tacks.

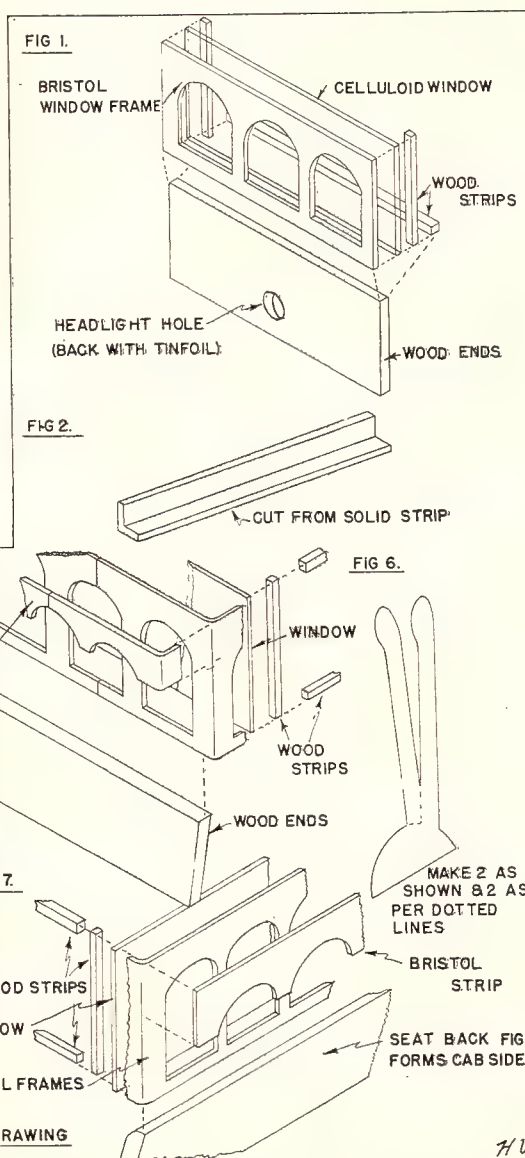
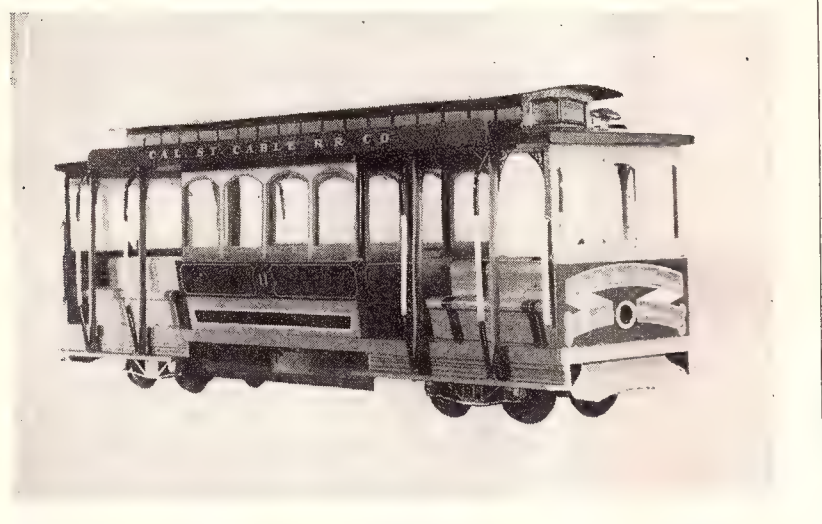
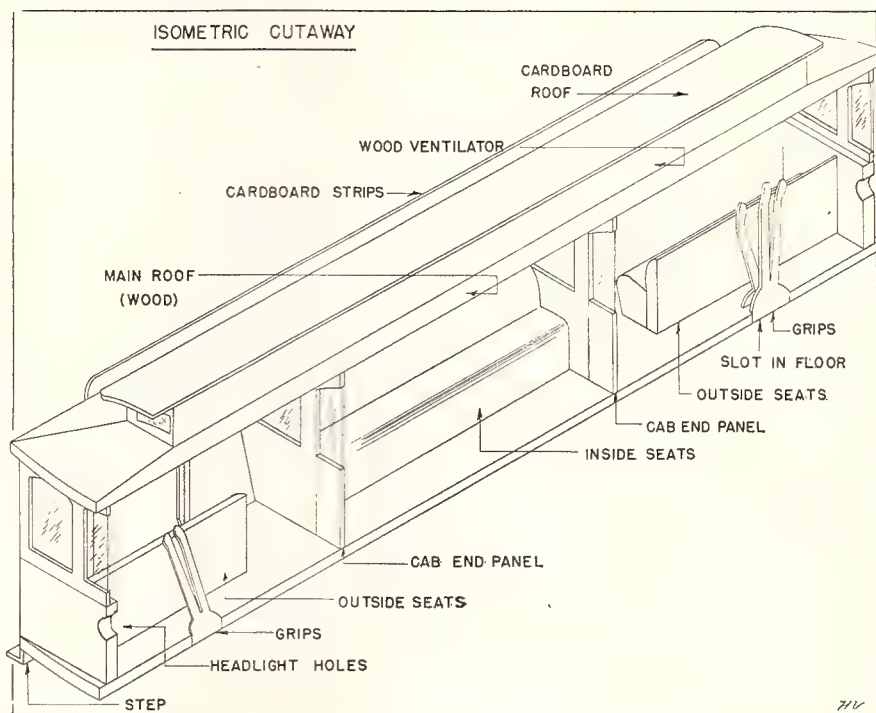




Photo by Haddad

The finished model all ready to "earn her keep" on the author's layout.

DL&W Consolidation

PART III

YOUR consolidation locomotive will be completed with the close of this section of the construction, with only the tender details to follow next month.

Work should start with the boiler. The barrel is a simple turning from brass tube, the firebox being built up from sheet brass. Cab front and back must be included in the boiler construction.

Use a piece of brass tube, preferably $1\frac{3}{4}$ " outside diameter and $1\frac{1}{2}$ " inside. Cut to allow for chucking in the lathe and parting off. Set up and adjust to run true in the four jaw chuck. The four jaw chuck facilitates scribing the center lines. Take light cuts only, so as not to pull your work out of the chuck.

Face off the end of the tube first. Next turn to $1\frac{5}{8}$ " O.D. for $1\frac{5}{16}$ " for the smoke box portion. With hermaphrodite set at $\frac{7}{8}$ ", scribe the cylinder center line, which will also be center line for the smoke stack. Turn to $1\frac{1}{2}$ " O.D. for $2\frac{3}{32}$ " plus the thickness of the front cab sheet. Using the parting tool and starting at $1\frac{1}{16}$ " minus the thickness of both the front and back cab sheets, turn to $1\frac{3}{4}$ " O.D. minus twice the thickness of firebox wrapper sheet for $\frac{1}{4}$ ".

When scribing the four center lines, take a piece of brass or steel stock cut to a length equal to the distance from lathe bed to center minus half the width of chuck jaw. Stand on lathe bed and pull chuck around to set one jaw against it. Set surface gauge at height of center above bed. Scribe the line the full length of the turning by sliding the gauge along the lathe bed. Repeat, setting to each of the other jaws. Part off, allowing about $\frac{1}{4}$ " to solder the firebox sheets.

Lay out the cab front and back on

sheet brass preferably $\frac{1}{32}$ " thick and the firebox front on $\frac{1}{16}$ " brass sheet. These can be fitted to the barrel turning on the lathe. Fasten a piece of flat board to the face plate with wood screws. Use the wood screws through holes drilled into the waste portion of cab front and back (through door openings) and in part to be cut away on throat or firebox front. Locate on face plate board by bringing up tailstock center and screw securely with two or more wood screws. Now bore to fit the boiler. Drill and file out door openings and cut cab sheets to finish lines. The firebox front may be sawed out with a fine tooth blade in a coping saw frame.

Cut a hole in a piece of board just large enough for boiler barrel to fit snugly. Place cab front over the hole and put through the boiler barrel. Set so that center lines come together and solder. By pressing at end of barrel, the shoulder is held tight to cab sheet which rests against the board at edge of the bored hole. Solder the back cab sheet in similar manner. The firebox front goes hard against the back of the cab. Do a particularly good soldering job here, allowing a heavy fillet to remain. This is most important, as the center will be cut away to clear both motor and gears. For this reason, it is advisable to use a cross reinforce. One of those long bolts from an old radio transformer is useful here. A 6-32 or 8-32 drilled and tapped on the center line just inside back of cab. Screw in the bolt, cut off and rivet the ends. (See photo.)

Lay out the back boiler head on $\frac{1}{32}$ " thick brass and cut out. For the wrapper sheet, cut a sheet three inches wide by about six inches long and bend to suit. Solder to the front sheet and then solder

in back head. Allow a heavy fillet for added strength. A Parallel Clamp (cabinet maker's hand screw) is a real help to hold this set-up while soldering. The running boards are cut from $\frac{1}{32}$ " sheet and soldered to cab front and back. The front ends may best be supported by a bracket of $\frac{1}{32}$ " x $\frac{1}{4}$ " brass screwed to bottom of the boiler barrel and soldered to underside of running boards.

The front sheet of the fireman's hood and cab sides may be cut from $\frac{1}{32}$ " brass and soldered in position. Solder from the inside and allow a heavy fillet. Back running boards are soldered to cab and hood.

Lay out and center punch for all holes in boiler. Drill #43 for cylinder bolt and auxiliary steam dome. Drill #33 and tap 6-32 for sand and steam domes and $\frac{9}{16}$ " for smoke stack. Drill #55 and tap 0-80 for front end braces. For hand rail posts and bell, fit to suit.

You will find it necessary to cut out a portion of the boiler barrel, firebox front, cab back and running boards or cab floor to clear the motor and gears. This is best done by drilling $\frac{1}{2}$ " on bottom center

By WARREN B. CRATER

line at the gear and then sawing from the firebox front to side of drilled hole.

A piece of lead ballast will be needed for adhesion. Make a sheet metal form (see sketch), and stand on piece of wood. Melt lead with a torch and allow to drip into form until filled. Remove form when cool and file off to clear gears and fit above reinforcing bolt. A 6-32 screw tapped through top of boiler inside the cab will hold the weight in place.

Cut a piece of brass sheet for expansion plate at back of boiler. This should lap inside back of boiler head by about $\frac{1}{8}$ ". Drill, tap and screw to angle bracket at back end of frame. Put the boiler in place and screw to the cylinder saddle with screw driver through the hole for smoke stack. Bring back head to proper height above frame and center, then solder expansion plate to bottom of back head. The boiler may be taken off at any time by removing the three screws.

The smoke stack is a simple turning job on your lathe. Chuck a piece of $\frac{5}{8}$ " brass in the lathe and turn to $\frac{9}{16}$ ", the flange diameter. Center and drill $\frac{1}{16}$ ". Use a large half round file and fit the end to the boiler barrel. Using a round nose tool, turn the straight part to $1\frac{3}{32}$ ". Finish the flange with a small round file. Turn the cap and part off. Rub oil on a piece of $\frac{1}{16}$ " drill rod and put through the stack and into the hole in the boiler to hold the stack in place while soldering. The oil will prevent any solder sticking to the drill rod, which is then easily removed.

The sand dome and steam dome are made in similar manner as the stack. Drill them #27, fasten to boiler with 6-32 screws. File the screw heads down to resemble covers. The auxiliary dome is also made in this way; drill #48 and

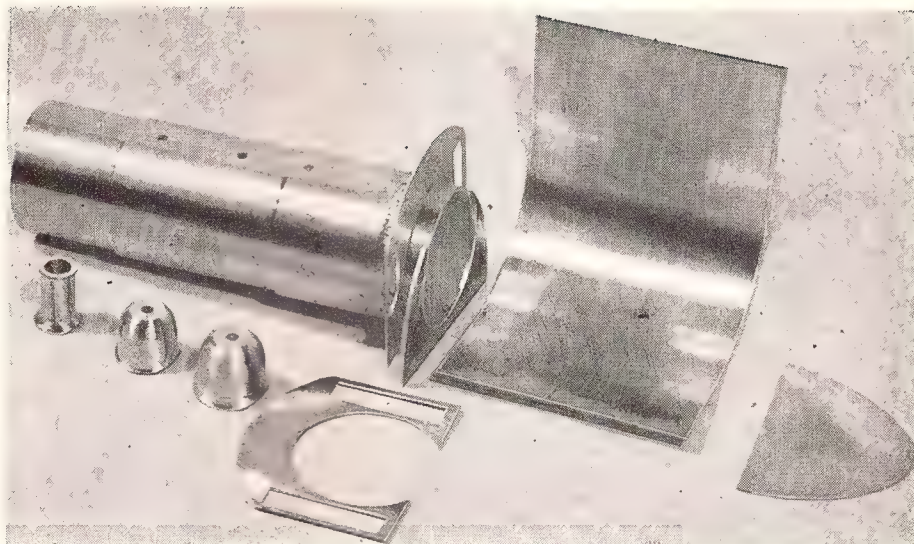
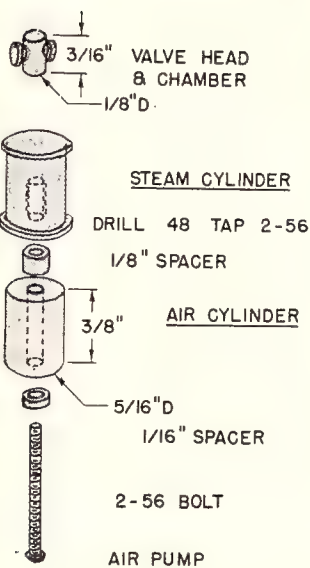
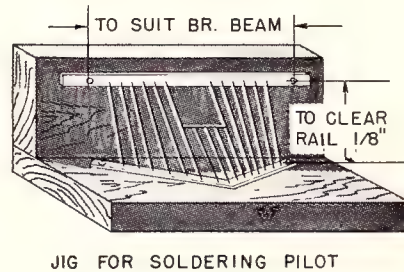
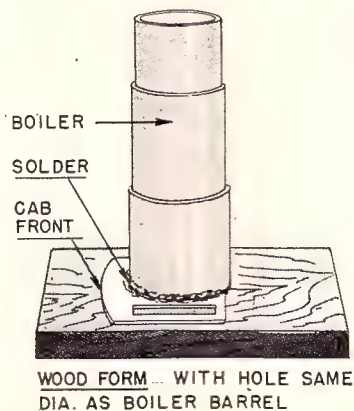
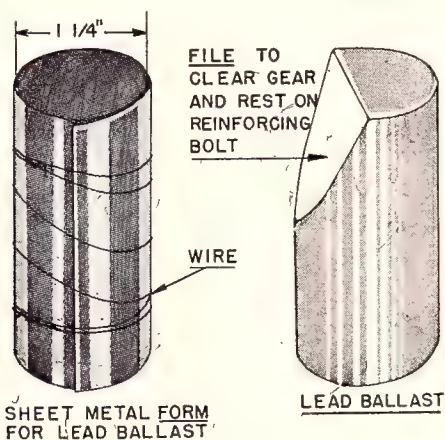
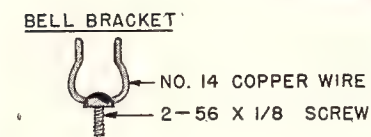
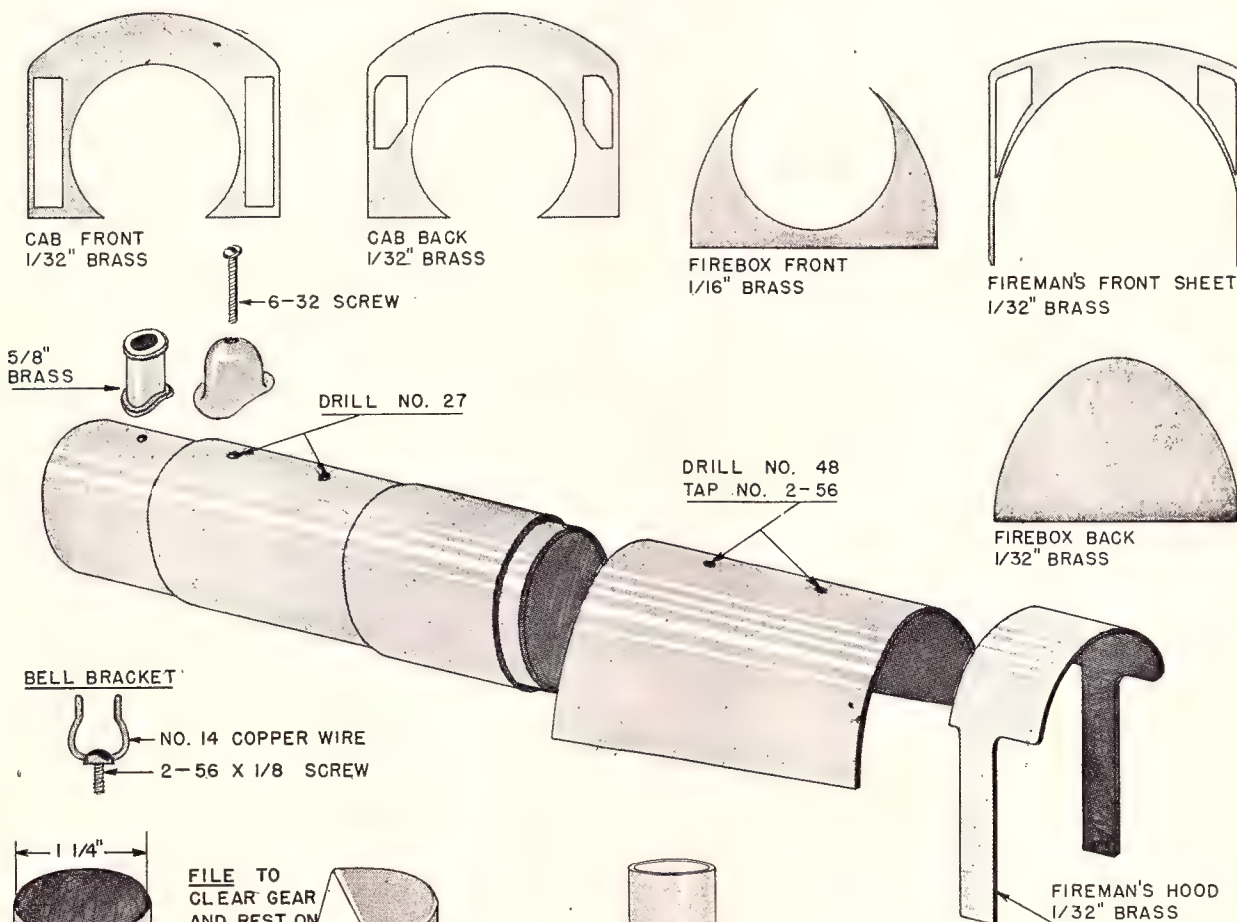


Photo by Price

Cab templates shown half size below.



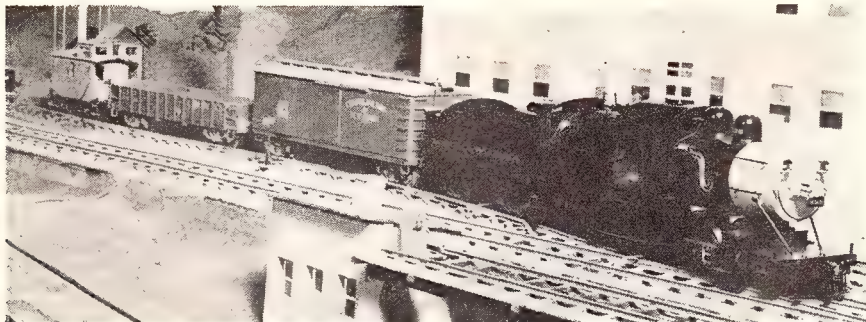


Photo by Haddad

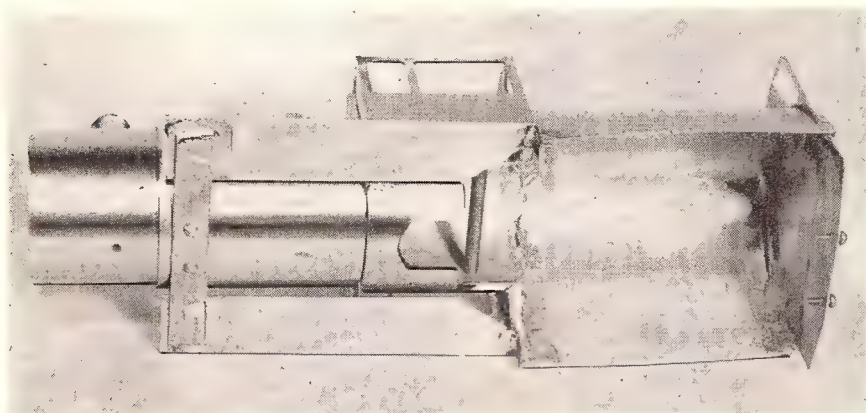


Photo by Price

Note how the author has cut a portion of the firebox away to clear the motor and gears. The boiler is then reinforced with a long bolt, portion of which is visible above.

tap 2-56 and screw to boiler from the inside. Drill and tap three holes in top for whistle and safety valves.

The front end is turned from solid brass, with a $\frac{1}{8}$ " extension left for a hand fit in front of boiler barrel. The lugs for the front end door may be represented by O-gauge spikes driven into #66 holes.

If you use an oil-type headlight, mount on top of the boiler and use a number plate on the front end. If an electric-type is used, mount it on the front end and place turbo-generator directly in back of cab.

The bell and its bracket are both available at your local hobby store. Their mounting depends on what provision is made in the commercial product. I have made up several, however, as follows: Screw 2-56 screw into the boiler. Bend a piece of #14 copper wire or #52 brass drill rod to the shape of the bracket and another for the yoke. Turn the bell from solid brass and solder the unit together. The whistle and safety valves are turned from brass rod, allowing $\frac{1}{8}$ " extension. Thread 2-56 and screw into auxiliary steam dome.

The pilot is a built-up job, and is best done with the use of a wooden jig (*see sketch*). Strips at the top and bottom are $\frac{1}{8}$ " wide by $\frac{1}{32}$ " thick. The top is broken to clear the coupler. Holes in the top member are #48 for 1-72 screws into front of the breast beam and are spaced to suit. They may be used to hold these pieces to the jig while soldering. Holes in the bottom piece are for the jig and will be cut off after soldering.

All ribs are #60 brass drill rod.

Pilot steps are available from the trade or may be made as were the tender steps. A deck plate should be provided, $\frac{1}{8}$ " narrower than the breast beam at each side. Provide holes for front end braces. These are $\frac{1}{16}$ " O. D. tube or #52 brass drill rod, preferably tube. One end should be hammered out flat and bent to meet the boiler. Drill #51 for 0-80 bolts. These remain fast to boiler when that is removed from the frame and simply slip out of the holes in the deck plates.

The air pumps, left side only, can be commercial die castings or may be built up as follows: Turn the lower or air cylinder from brass stock and drill #43 (*see sketch*). Turn the upper or steam cylinder and allow for the valve head $\frac{1}{8}$ " diameter and $\frac{3}{16}$ " long. Drill #48 and tap 2-56 part way. The valve chamber is a separate turning $\frac{1}{8}$ " x $\frac{3}{16}$ ". File a recess at back of valve head and solder chamber in position.

If two pumps are to be installed on the left side, put long 2-56 screw through the running board from under side, $\frac{1}{2}$ " and $\frac{15}{16}$ " in front of cab. Now assemble as follows: $\frac{1}{16}$ " spacer, lower cylinder, $\frac{1}{8}$ " spacer and upper cylinder. If one pump is installed on right side and one left, the centers should be $\frac{13}{4}$ " in front of the cab, lower cylinder below running board with a spacer and upper cylinder above.

The steam valve in the dome (*for the injector*) is so conspicuous that it should be included. This may be turned and threaded 2-56 to screw into the dome. The check valve is built up on a flat head

screw which is tapped into the boiler on center line $1\frac{3}{4}$ " ahead of the cab. The injector is $\frac{3}{16}$ " square brass with the outer edges filed slightly round. Number 14 copper wire is used for the piping and is soldered in place. At the check valve ends of the delivery pipes, slip short pieces ($\frac{3}{16}$ ") of $\frac{3}{32}$ " O. D. tube onto the wire and solder to flat head screw, previously set in the boiler. These wires representing copper pipes, should be polished bright with fine emery cloth or garnet paper and finished with clear lacquer when the paint job is complete.

Hand rails are all #66 brass drill rod. This fits the drilled holes in the commercial posts. The sections between cab and hood are all soldered in place, preferably put through previously drilled holes and soldered from the inside.

The cab roof and hood may be cut from thin brass or tinplate and soldered in place. A small ventilator on top of the cab roof can be represented by a piece of brass $\frac{1}{16}$ " x $\frac{1}{2}$ " x $\frac{1}{2}$ ". Grab irons at the back edges of the hood are #66 brass rod soldered to inside of the hood.

This completes your engine and she is now ready for the paint shop. All that remains is the tender detail which will be shown next month.

HANDY DECIMAL EQUIVALENT CHART

(By Bill Decker)

7ths, 14ths and 28ths

1/28"	0.035714"
1/14	0.071429
3/28	0.107143
1/7	0.142857
5/28	0.178571
3/14	0.214286
7/28	0.250
2/7	0.285714
9/28	0.321429
5/14	0.357143
11/28	0.392857
3/7	0.428571
13/28	0.464286
7/14	0.500
15/28"	0.535714"
4/7	0.571429
17/28	0.607143
9/14	0.642867
19/28	0.678571
5/7	0.714286
21/28	0.750
11/14	0.785714
23/28	0.821429
6/7	0.857143
25/28	0.892857
13/14	0.928571
27/28	0.964286
1/1	1.000000

6ths, 12ths and 24ths

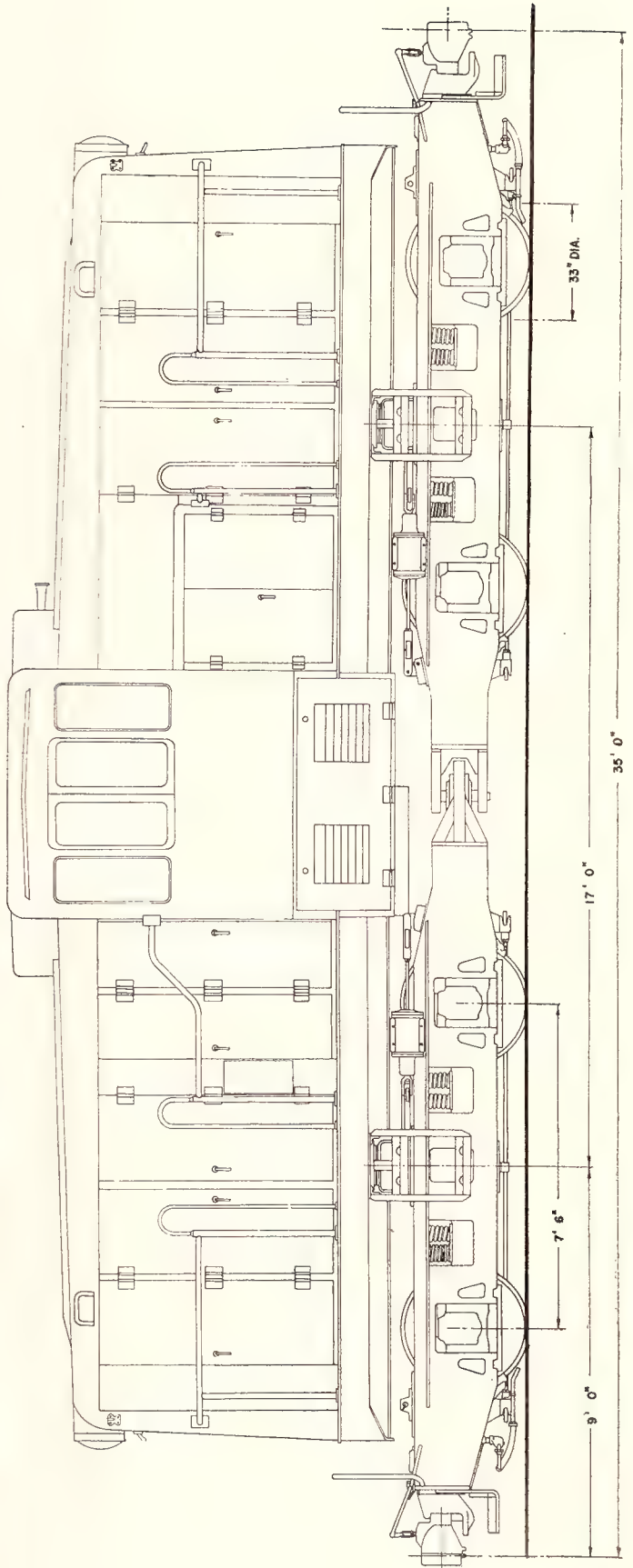
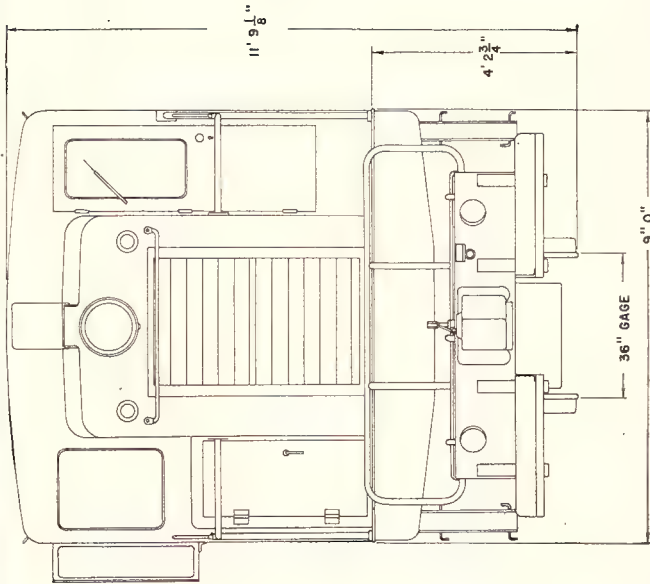
1/24"	0.041667"
1/12	0.083333
3/24	0.1250
1/6	0.166667
5/24	0.208333
3/12	0.250
7/24	0.291667
2/6	0.333333
9/24	0.375
5/12	0.416667
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3/6	0.5000
13/24	0.541667
7/12	0.583333
15/24	0.625
4/6	0.666667
17/24	0.708333
9/12	0.750
19/24	0.791667
5/6	0.833333
21/24	0.875
11/12	0.916667
23/24	0.958333
1/1	1.000000

DIESEL ELECTRIC

THIS 47-ton, 380-HP Narrow Gauge Diesel Electric (36" Ga.) was built by General Electric for the Oahu Railway & Land Co., of Honolulu, Hawaii. The superstructure is the same as the G. E. 45-ton standard gauge diesel. The added weight is due to the articulated trucks, necessary for negotiating sharp curves on the Oahu R. R. The prototype was built to operate over curves of less than 35' radius.

This loco should work well with a Pittman DC-71 motor (HO). A fairly large gear ratio is recommended, at least 29:1 or better. . . . *Courtesy, Joseph R. Rhoden, Jr., Mountain-Valley Scenic R. R. Co.*

Scale $\frac{1}{4}" = \text{to } 1'$



flywheel boiler FEED-PUMP

PART II

By C. BLACKSTAFFE

CRANKSHAFT AND VALVE It will pay to obtain a piece of $\frac{3}{8}$ " drill rod for the crankshaft. If not, turn it from steel with great care to obtain a smooth finish and good fit. Burnish with oil and fit it free, but not loose. Part off long enough to come flush with the flywheels and leave $\frac{1}{4}$ " end-play in the chest. Push one wheel onto the shaft. At this point, redraw the valve diagrams (fig. 7), cut out the circle of the shaft and pivot it on a pin on the other port diagrams. This will teach you more about timing than could be explained in words. As a guide, two diagrams are shown, illustrating the position of the cut-away portion of the valve at the port opening for both inlet and exhaust. The crankpin is at the opposite end in each case. To lay out the surface of the shaft on the drawing, showing where to file, will prove quite a task, so it will be best to place the shaft in position and with the crank on left-hand center, scribe up through the port "S". Turn the flywheel until the crank is almost at right center when turning clockwise, and scribe through the cylinder hole on the steam port. File the cut-away portion between these lines, but not past them.

By screwing a short piece of pipe into the steam hole and blowing your breath into it, you can see just how the work is progressing, and can file to make a perfect timing. Leave no burrs that would scratch the bore. The exhaust is treated in similar manner, giving you a valve timed more perfectly than any eccentric and slide-valve ever seen. With all parts clean, smooth and oiled, push on the other flywheel, making sure to line up the crankpins. (not at 90°—you aren't timing a locomotive)

The piston is made of cast iron or steel in one piece with the crosshead. Drill hollow to $\frac{5}{16}$ " diameter to take the end of the water plunger. Strive for a smooth finish, using the file sparingly, if at all, to obtain a stiff fit. Use a pointed tool to make six oil or water grooves, $\frac{1}{4}$ " deep, rubbing slightly with fine emery cloth to make it free but not loose. The water plunger is made from either stainless steel or rolled brass rod, fitted with care. Insert the plunger in the crosshead and drill a $\frac{1}{8}$ " hole for the wristpin. Mark the top of each, and remove, relieving the plunger end $\frac{1}{4}$ " for self-aligning. Cut a slot through each side of the guide for working in the wristpin. File the guide flat till you break through, or end-mill it on each side.

The connecting rods are made of $\frac{1}{16}$ " sheet metal, and polished, and with bush-

ings of $\frac{3}{16}$ " O.D., $\frac{1}{8}$ " I.D. brass or copper tubing soldered in place for bearings. Set two $\frac{1}{8}$ " pegs into a bit of $\frac{1}{4}$ " square steel as a jig, dropping the rods over these when soldering the bushings in position on the inside face. If desired, the wristpin spacers and bushings can be made together as one unit. It is not necessary to fasten the rods on the crank. The "engine" end can now be tested with air, and should run very nicely.

Bolt the water pump to the guide, tin the cylinder and valve box with solder, and sweat together when clamped with the valve box vertical. The suction valve seat is located in the plug that screws into the lower end of the valve box. This enables the seat to be examined easily. The springs must be made from very light bronze wire. The valve plugs are turned to make a free sliding fit in the guide portions, having three flats filed on them (almost touching each other) to let the water past. If stainless steel balls are available, these will work best. If light springs are not used, limit the lift to $\frac{1}{32}$ " with stops.

The discharge valve opens into a box made by a brass sleeve threaded $\frac{1}{16}$ " S.A.E. entirely through, with a $\frac{3}{16}$ "-32 or 40 nipple screwed into the side. An oval flange is then screwed to this for connecting the discharge pipe. Solder the flange to the sleeve. To get it facing the right

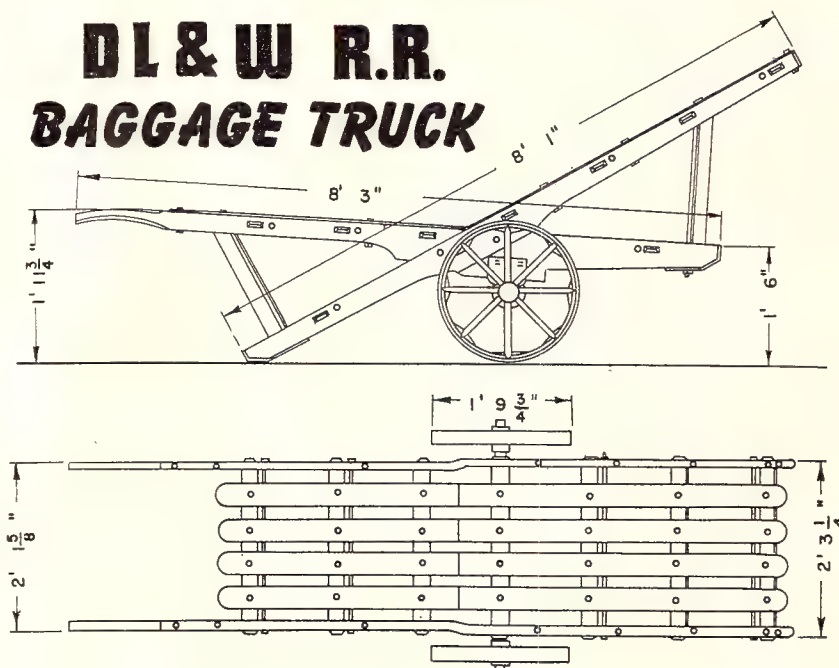
direction, turn the plug for the top, which is also the bottom of the air chamber. With this plug still in the lathe, screw on the sleeve and skim off the face where it beds on the pump. Using a little oil, screw this tightly onto the pump. Drill the hole for the flange and use some pipe-jointing to fasten it solidly.

AIR CHAMBER is made from a piece of brass or copper tube, $\frac{5}{8}$ " O.D. at least 1" long, with the brass top and bottom sweated in. Its purpose is to trap air in the top acting as a spring to damper the shock at each stroke, making a steady flow of water to the boiler. This is not necessary if no heater is used and the feed pipe is short. The by-pass is mainly used to clear the pump of air before starting, but can be used to permit water spilling back to the feed tank. When the load on the boiler is too light, the pump still over-feeds the boiler. This should discharge into a funnel in order to be visible.

The cylinder oil cup can hardly be called a lubricator as it is not a feeder. Actually, it equals a plug in the steam pipe, through which a shot of oil and graphite can be given to the engine. This is turned from $\frac{1}{4}$ " brass with a #6 tapped hole for a screw plug, countersunk in the top. The lower end is turned to simulate the drain with a short bit of $\frac{1}{32}$ " wire to represent the handle. The cap has a similar handle. The $\frac{1}{8}$ "-40 nipple connecting to the steam pipe tee is made of brass having a $\frac{3}{4}$ " hole. The nipple passes through the lubricator body and is soldered in place. File a hex nut on the end and pass a $\frac{1}{32}$ " wire handle through the turned down end to simulate the gland and valve of a feed regulator. A stationary engine would certainly look bare without these extra trimmings. To operate, the pump is stopped, the plug unscrewed and the oil fed in as the pump is turned over by hand, the suction drawing in the oil. Replace the plug and start

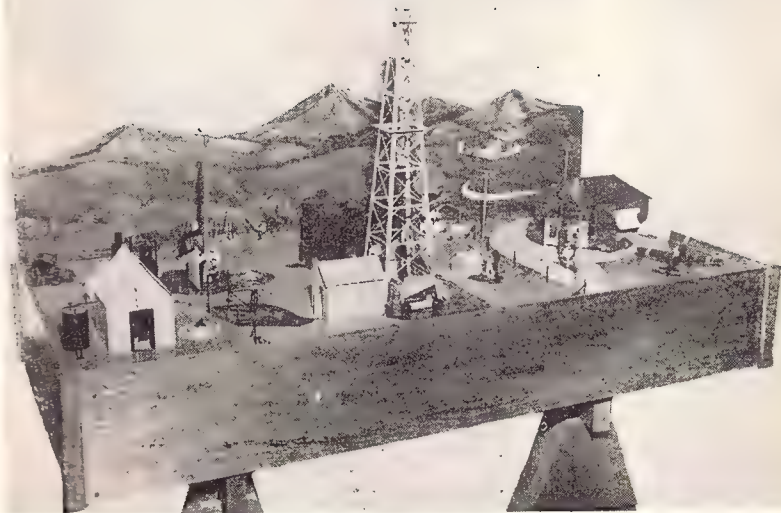
(Continued on page 49)

DL & W R.R. BAGGAGE TRUCK



YOUR NABOR'S PIKE

WANT THREE BUCKS? That's what we're paying for both photo and appropriate caption appearing on this page. Two bucks for each photo without caption. Here's a good chance to let your "nabor" see your work and make some easy money in the bargain. Photos are selected on a basis of good photography and reader interest. We do not limit you to some super-detailed model, so don't be bashful—your photo may be the next to appear on this page. Include all pertinent information regarding scale, gauge and all interesting facts. Send material to the Picture Editor, Model Craftsman, Ramsey, N. J. Photos will be returned on request.

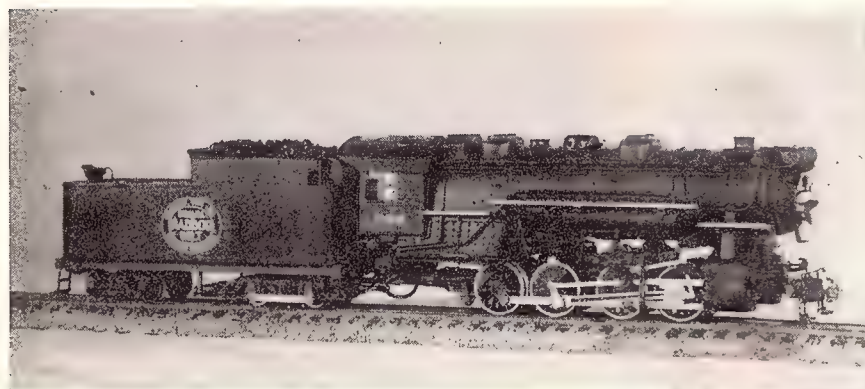


MODEL OILFIELD made by R. A. Wright, of Casey, Ill. The 60" x 30" scale model depicts drilling and pumping of both shallow and deep oil fields, run by a ¼-H.P. motor and three dozen pulleys concealed in the case. All jacks, lighted drilling rigs, Diesel engines, filling stations and airplane are mechanical, also the boy who occasionally pulls a fish from the pond and the car that comes from the garage and stops for gas.



Photo by W. Houp, Jr.

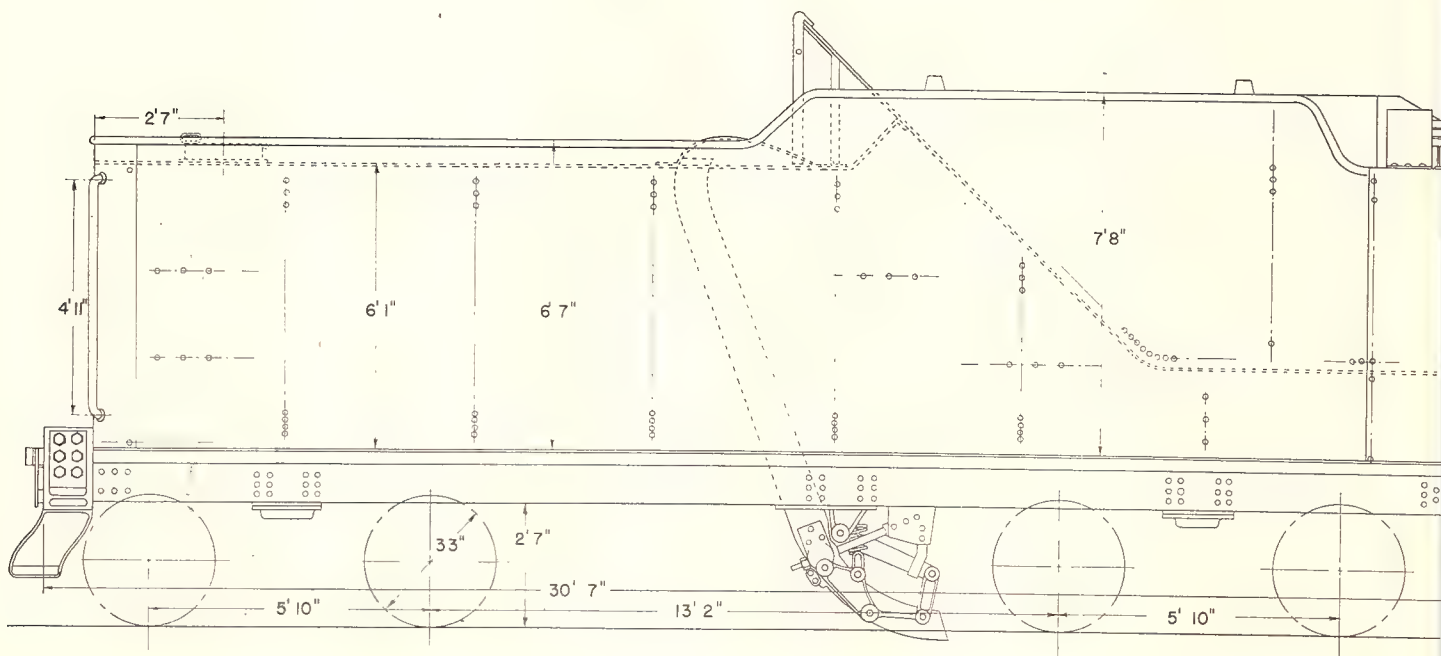
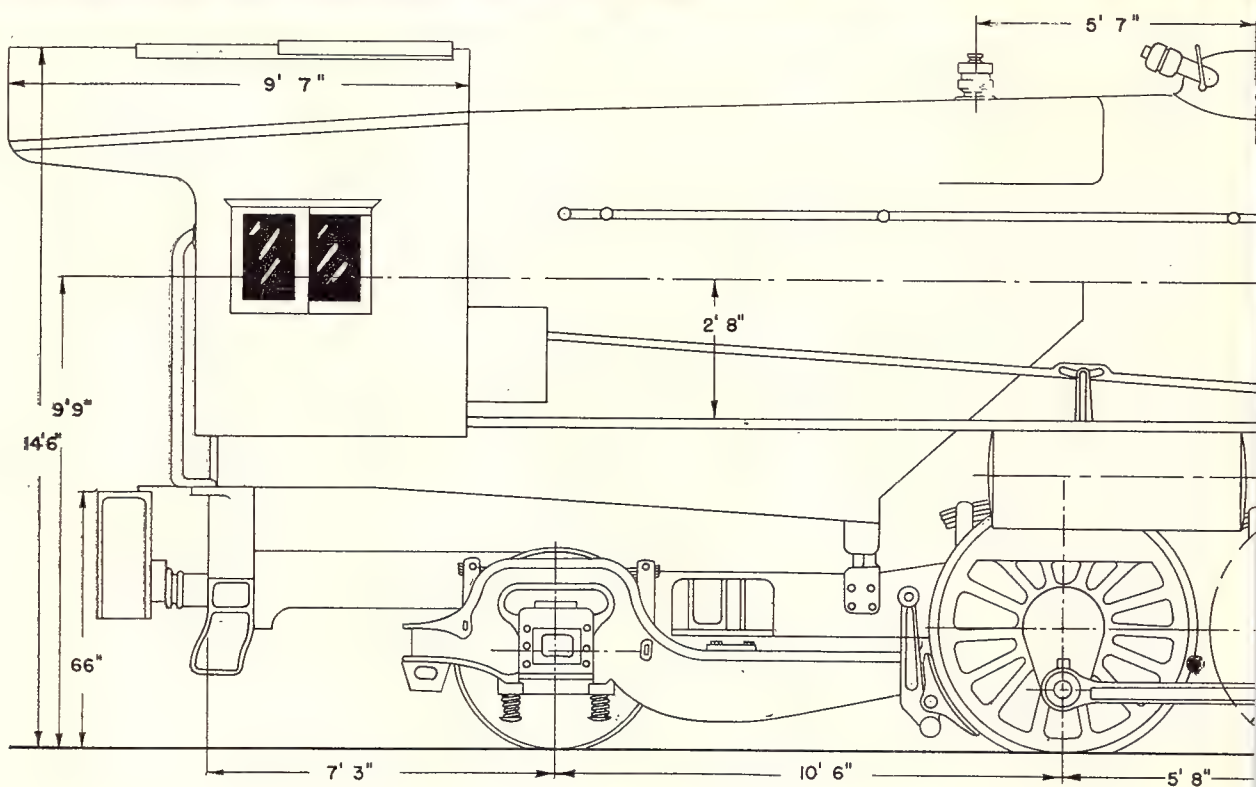
MUTT 'N JEFF. These "home-grown" models in HO and O gauge of the heavy "3600" series Pittsburgh Railways Interurbans are the work of R. S. Galbraith, of Pittsburgh, Pa. The HO Trolley was his first attempt at modeling Interurbans, and is complete in underbody details.

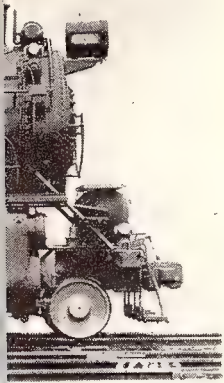


BUILT TO ORDER. This slick Indiana Harbor Belt Line super-detailed ¼" scale model of world's most powerful 3-cylinder 0-8-0 Switching Loco was built by Charles Strayer, of Cochran, Pa., and is now owned by Max Gray, of Cleveland. Combined tractive force, including Tender Booster, of the prototype is 89,500 lbs.

MAIN STREET TRAFFIC is extra heavy these days on the O-gauge layout of Warren Crater, Roselle Park, N. J. Even the faithful camelback switcher is keeping busy, bumping a string of "empties" across the coal trestle. Much of Warren's rolling stock is modeled after his favorite prototype, the Central Railroad of New Jersey. These locomotives are not strange to him either, for he practices "real railroad-ing" during the day as engineer for the Central!

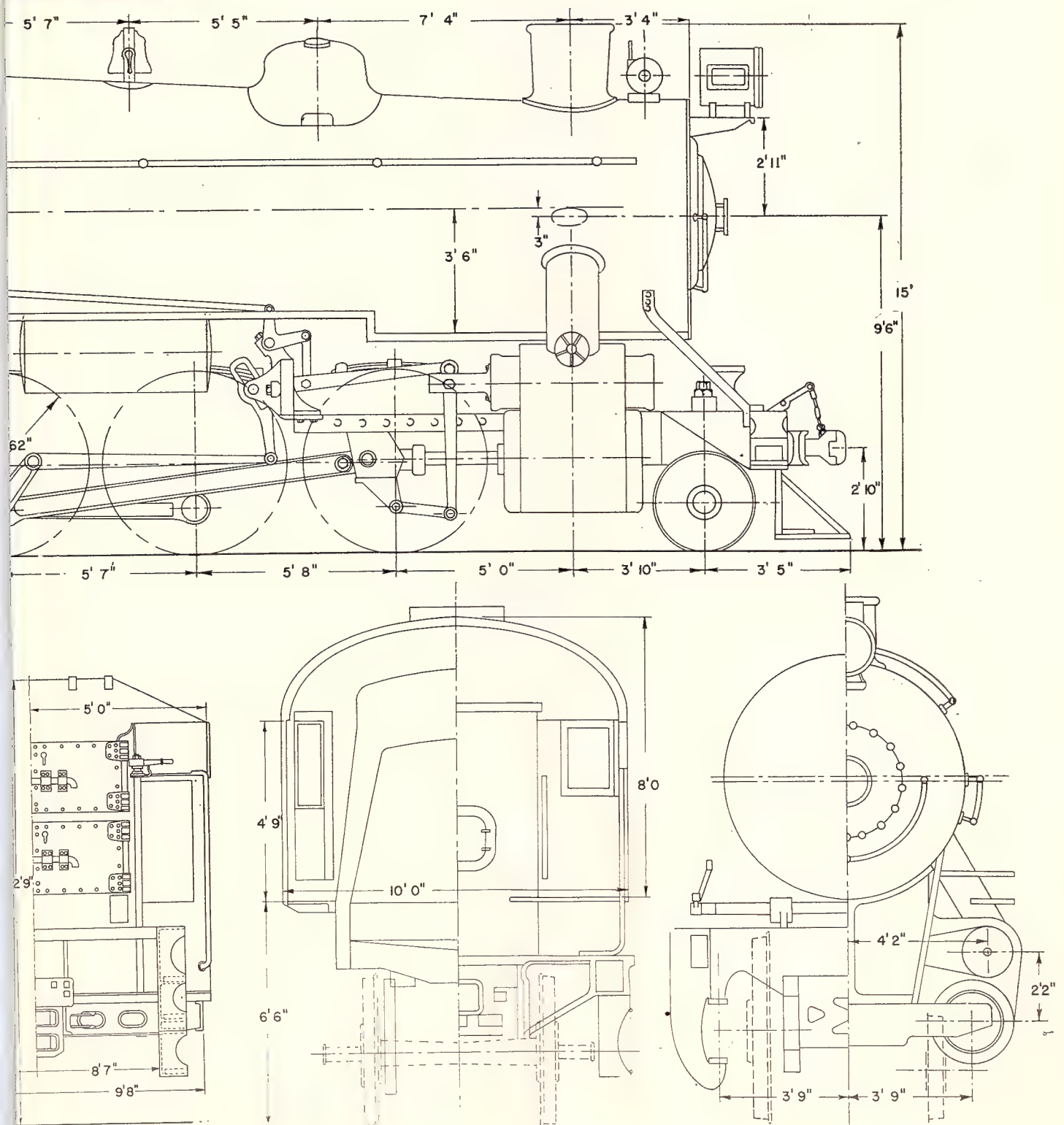


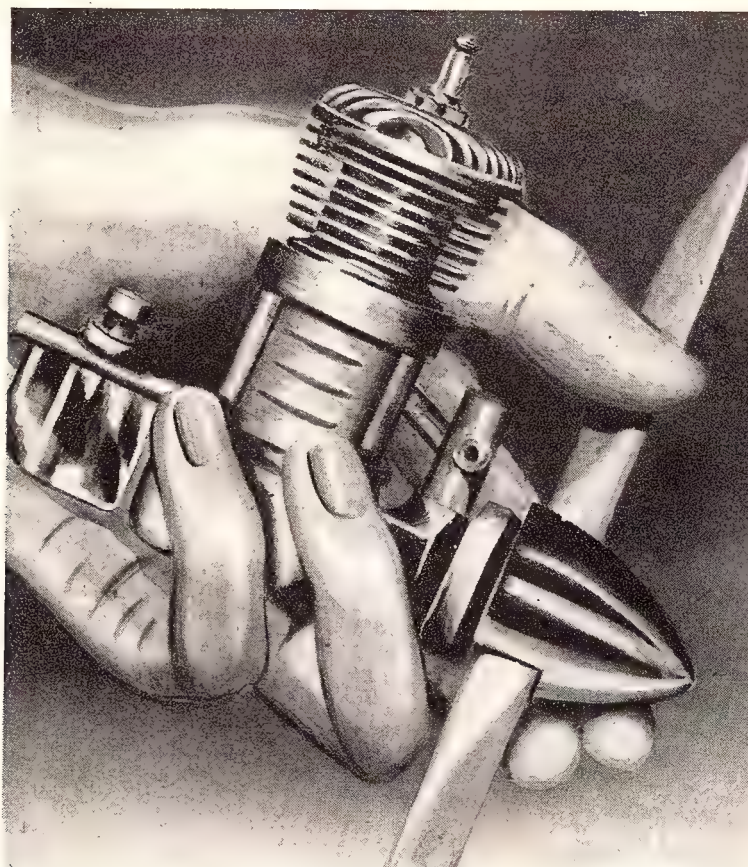




PENNSY MIKADO 2-8-2

Scale: $1/4'' = 1'$





YOUR ENGINES

K&B Torpedo

WT. 7.83 OZ. DISP. .299

Prop. Dia./Pit.	12/6	11/6	10/8	10/6	9/6
R.P.M.	6000	7450	6400	7200	8500
Thrust	2¾	2½	1¾	1¾	1¾
Torque	1¾	1¼	1¾	1¼	1
7 Oz. Flywheel.....11,860 R.P.M.					

McCoy "49"

WT. 13.33 OZ. DISP. .491

Prop. Dia./Pit.	14/6	(Hot Fuel) 14/6	10/6	(Hot Fuel) 10/6
R.P.M.	6700	7100	8250	10,000
Thrust	3¾	5	2½	3½
Torque	3¼	3½	1½	2½
7 Oz. Flywheel.....14,350 R.P.M.				

Air-O Midget

WT. 8.25 OZ. DISP. .45

Prop. Dia./Pit.	13/8	13/6	9/10	(Hot Fuel) 9/10
R.P.M.	4250	6250	7000	7500
Thrust	2¾	2¾	—	—
Torque	2½	2¼	—	—
7 Oz. Flywheel.....13,100 R.P.M.				

Vivell "49"

WT. 7.72 OZ. DISP. .49

Prop. Dia./Pit.	13/8	13/6	9/10
R.P.M.	4620	6225	—
Thrust	3	2¾	—
Torque	2¾	2¼	—
7 Oz. Flywheel.....10,025 R.P.M.			

Additional data for your Engine Survey. Pertinent facts necessary for the model builder, taken from Stock Engines as YOU would buy them!

EVER since our first engine survey was presented to the model builder, literally hundreds of letters have poured into our office, praising such work and pleading for more information. The first survey appeared in August, 1946, featuring all available Class A and B engines on the market at that particular time. This was followed in September, 1946, with a survey of all available Class C engines. Since this last survey, several new engines have made their appearance on the market and in answer to the many requests we present several of them at this time.

Pursuing our original plan, we rounded up these additional engines and again decided to test each one individually for *thrust*, *torque* and *R. P. M.*, using propellers that are normally used on these particular engines. Each engine was individually broken in until they responded to the advance of the spark timing and the leaning out of the fuel-air mixture. This meant running in each engine on the average of one to six hours before conducting tests. Recommended fuel mixtures were used on each engine. In addition, the McCoy 49 and the Aero Midget were tested on a commercial brand *hot fuel* to determine the difference in *R. P. M.*'s. These findings are all listed in chart form, together with a photo and two-view drawing of each engine, giving the four necessary dimensions for mounting and cowling.

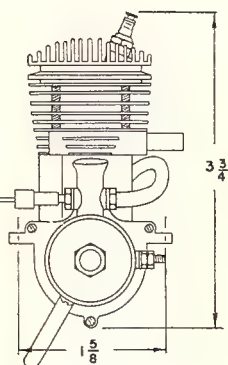
To obtain thrust and torque readings, a specially built thrust-torque meter was

used in conjunction with a Strobotac. The thrust-torque meter has a self-contained electrical high tension system built in, each engine being mounted on this meter and started by hand with the various propellers listed.

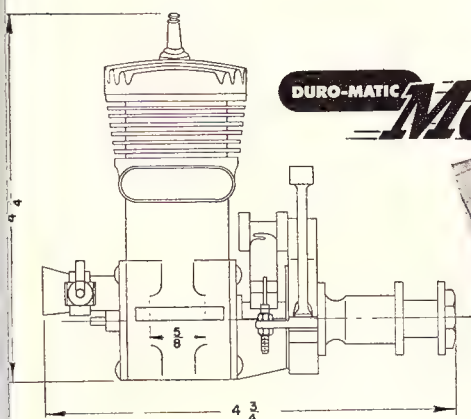
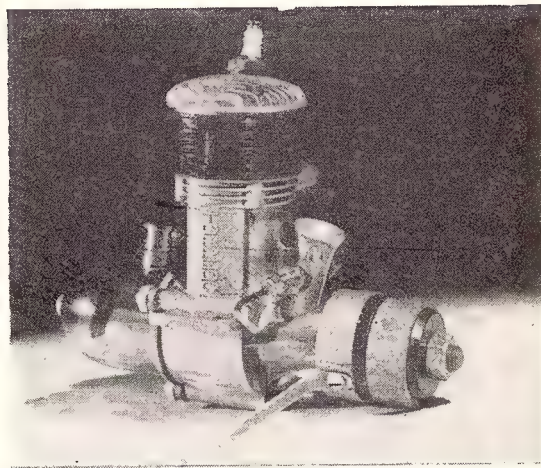
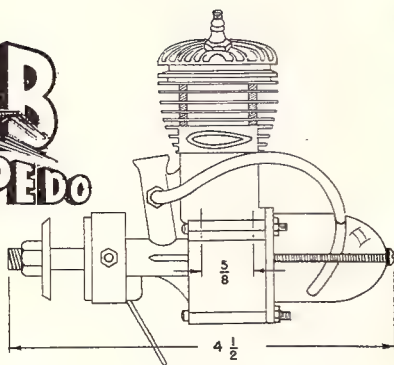
Readings were recorded only when the maximum *R. P. M.* was attained without any fluctuation. By presenting these three figures (*R. P. M.*, thrust, torque) interested modellers and engine owners can compare different engines against each other to determine which would be more desirable for their particular needs. If you are after speed flying, the faster turning engines should fill your requirements. If a powerful engine is desired, the engine with a fairly high *R. P. M.* under heavy working conditions, i. e., large prop with high pitch, should be very suitable.

All readings on the charts are numerical and are read directly. Propeller sizes are listed with the first figure representing the diameter and the second figure representing the pitch. *R. P. M.* readings are read directly. Thrust is read in pounds or fractions thereof. Torque is read in 6-inch ounces, the 6-inch component being constant.

Conditions under which this survey were conducted are the same as the previous two surveys with the same instruments and in some cases where the propeller pitch and diameter were the same, the identical propellers were used. This portion of the survey therefore lends itself in comparison with previous presentations.

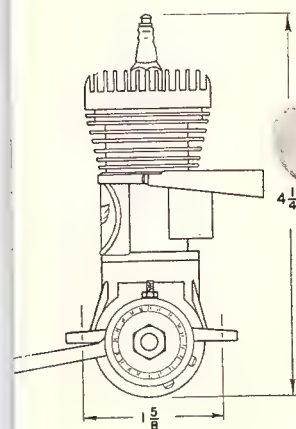
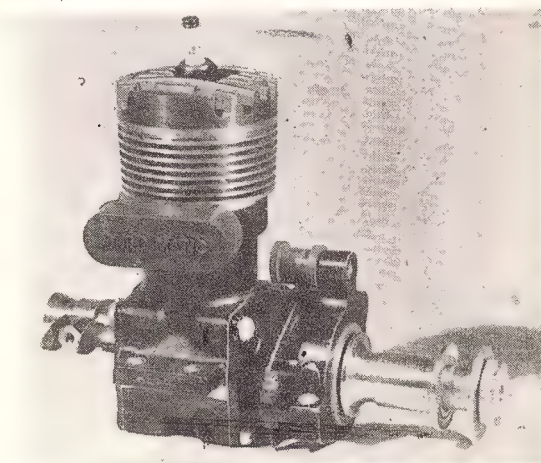
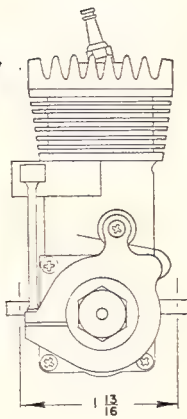


**K&B
TORPEDO**

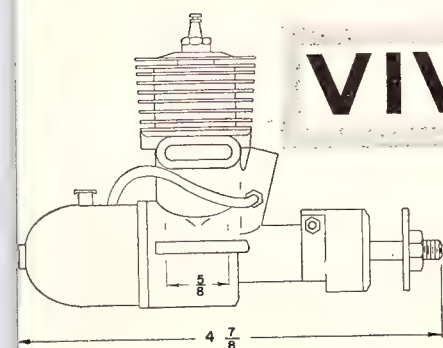
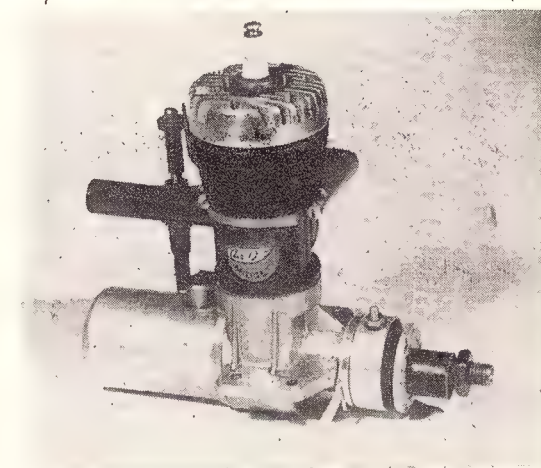
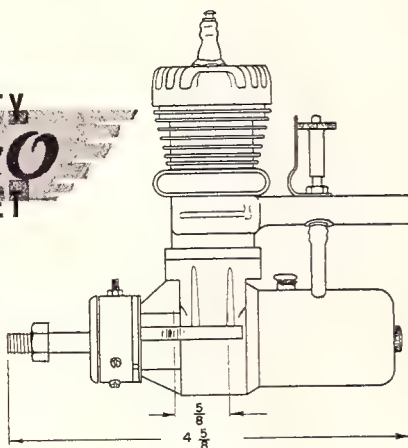


**DURO-MATIC
McCOY**

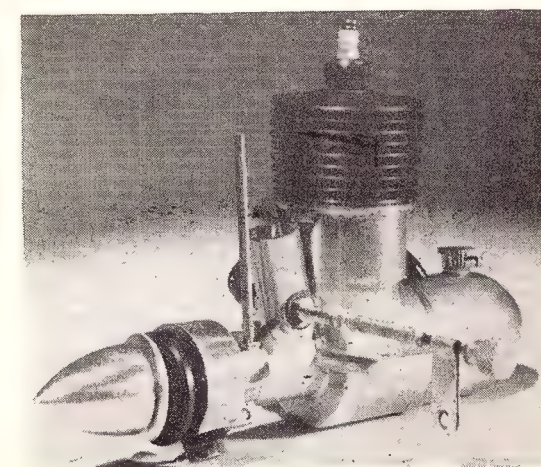
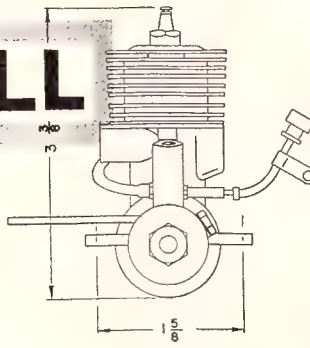
"49"

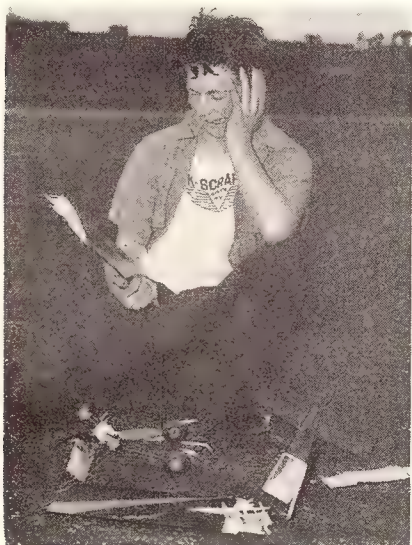


**MIGHTY
air-O
MIDGET**



VIVELL





Tough luck, fella! George Smith painfully looks at his once sleek model. Powered with a Diesel, this craft cracked up into five pieces while competing in the stunt event. Right—Bob Schwanhausser pumps air into his Dynajet plane with the help of Edward Rozewaki.



Photos by Daily Mirror

through with the fantastic speed of 93.75 MPH in Class 4 open division to break his own existing record of 91.24 MPH! DeBolt knocked out the identical speed in Class B division and managed to tie for first place with another contestant.

Winner of the Class A U-Control event was Jack Norris, of Cleveland, Ohio. Jack established a new national speed record of 81.81 MPH.

Still flying in the same old scale, Ernie Babcock, last year's grand champion, set a new record in Class 4 senior division.

All of the winners deserve much credit for fine work and excellent flying. Our hats off to them! Complete list follows:

FREE FLIGHT—CLASS A

1. William L. Effinger, Jr., W. Hempstead;
2. Frank Schmidt, Jr., Erie, Pa.;
3. Ralph N. Jackson, Babylon, N. Y.;
4. Joseph J. Beshar, Paterson;
5. Lt. Charles Burtner, Long Island City;
6. Charles E. Folk, Hampton, Va.;
7. Donald C. Brogini, Brooklyn;
8. Henry Shley, Springdale, Conn.;
9. Lawrence E. Corser, Jr., Cortland, N. Y.;
10. Larry Rehfeld, Whitestone, L. I.

Mirror Model Flying Fair

Four new national records set despite heavy rain

CULMINATING months of elaborate planning, the Second Annual Mirror Model Flying Fair was successfully run off before a thrilled crowd of over 100,000 spectators. Despite the rain and a 200-foot ceiling, the model plane boys managed to hang up four new national records before calling it a day. Scene of the hotly contested events was Grumman Airfield, located at Bethpage, L. I.

Many of the spectators who had come to witness the giant air show and demonstration of our armed force's airborne prowess were bitterly disappointed with the weather which grounded all aircraft. Their disappointment was quickly erased by the thrilling exhibition put on by the model planes which went through their paces in zooms and dives. Events began shortly after the first crack of dawn at 7 a.m. and lasted until 5 p.m. Tabulation was still going on until late that evening. The entire program was under the able leadership of Tom "Pappy" Herbert, of White Plains, N. Y. All compilation of winning scores came under "Pappy's" supervision. His system has since proved to be so reliable and efficient that it has been adopted by the Academy of Model Aeronautics. This same system will also

prevail at the coming 1947 Nationals being held in Minneapolis.

Prizes and trophies were very much in evidence to reward the young "aeromats" for their labors. Before the afternoon sun had a chance to disappear, four new records were set. Charlie Lee, from Riverdale, who for the first time competed against veteran contestants, knocked out a new record in Class 1 of the A senior division. His plane revved up to 56.8 MPH, kicking the old record right in the teeth by better than five MPH!

Harold DeBolt, the "ole faithful" himself, from Williamsville, N. Y., came

FREE FLIGHT—CLASS B

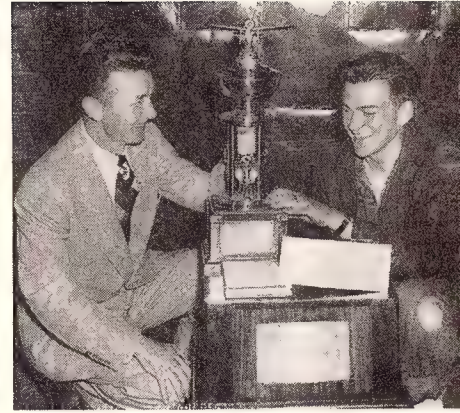
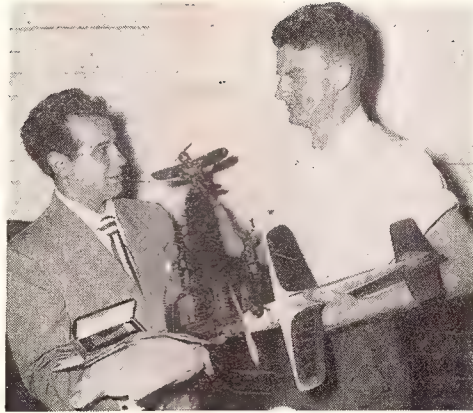
1. Ernest Terry, Liverpool, N. Y.;
2. F. M. Forstchen, N. Y. C.;
3. Richard Blazej, Queens Village;
4. T. A. Carlo, Port Chester;
5. L. E. Corser, Jr., Cortland, N. Y.;
6. James L. Hamelman, Hempstead;
7. William Shrader, W. Newton, Mass.;
8. Charles E. Folk, Hampton, Va.;
9. Donald Grassi, Bridgeport, Conn.;
10. Toshimi Hori, N. Y. C.

FREE FLIGHT—CLASS C

1. Edward Ritter, Bloomsburg, Pa.;
2. Robert Darakjian, Philadelphia;
- 3.

Despite wet weather, a large crowd of over 100,000 persons were thrilled by the events. Right—Three contestants keep their fingers crossed as a model plane makes its landing.





Above left—Fran McElwee, of Elizabeth, N. J., receives first place Stunt trophy. Center—Knocking out 81.81 MPH for a national record in Class A U-Control, Jack Norris (right), of Cleveland, receives awards from Lou Barbetta, of Grumman. Right—"He done it again!" Ernie Babcock, Jr. (right), receives awards from Grumman's Jack Rettaliata. Ernie took over in the U-Control Class C event. Lower right—Harold DeBolt (left) gets his awards from Tom Herbert himself, Contest Director of the Flying Fair. DeBolt sent his Class B U-Control ship around at 93.75 MPH!

Eli L. Weaver, Jr., Bethlehem, Pa.; 4. William Randolph, Bronx; 5. Louis J. Maresca, Oceanside, L. I.; 6. Meri A. Shemmo, Fremont, Ohio; 7. Lawrence E. Corser, Jr., Cortland, N. Y.; 8. Richard Lang, S. Belmar, N. J.; 9. Fred J. Otten, Brooklyn; 10. Arthur F. White, Fremont, Ohio.

U-CONTROL—CLASS A

1. Jack Norris, Lakewood, Ohio; 2. Harold DeBolt, Williamsville, N. Y.; 3. Jack Sellers, Elizabeth, N. J.; 4. Francis McElwee, Elizabeth, N. J.; 5. Bernard Collins, Providence, R. I.; 6. Ernest Babcock, Jr., Morris Plains, N. J.; 7. Ronald Kirk, Kenmore, N. Y.; 8. Ralph Seidenspinner, Baldwin, L. I.; 9. Robert Hawksley, Cranston, R. I.; 10. Dale Springstead, Schenectady, N. Y.

U-CONTROL—CLASS B

1. Harold DeBolt, Williamsville, N. Y.; 2. "Speed" Ambler, Cleveland; 3. Stanley Sieminski, Cleveland; 4. Henry Laureys, Jersey City; 5. Lou Andrews, Bridgeport, Conn.; 6. Ronald Kirk, Kenmore, N. Y.; 7. Ernest Babcock, Jr., Morris Plains, N. J.; 8. Robert Hartlieb, Jr., Allentown, Pa.; 9. Edward Costello, Jersey City; 10. Jean Paillet, Ozone Park.

U-CONTROL—CLASS C

1. Ernest Babcock, Jr., Morris Plains, N. J.; 2. Alan B. Ryder, Jersey City; 3. Lou J. Andrews, Bridgeport, Conn.; 4. Henry Laureys, Jersey City; 5. Edward J. Swenton, Syracuse; 6. Harold DeBolt, Williamsville, N. Y.; 7. Stanley Sieminski, Cleveland; 8. Ronald Kirk, Kenmore, N. Y.; 9. Lee S. Arrowsmith, E. Cranford, N. J.; 10. Robert E. Marshall, E. Cranford, N. J.

STUNT EXHIBITION

1. Francis E. McElwee, Elizabeth, N. J.; 2. Paul G. Heisler, Albany; 3. Lou J. Andrews, Bridgeport, Conn.; 4. Harold F. DeBolt, Williamsville, N. Y.; 5. Arthur Hasselbach, N. Y. C.; 6. Carl W. Hermes, Bridgeport, Conn.; 7. Robert J. Hartlieb, Jr., Allentown, Pa.; 8. Leo Cohen, Brooklyn, N. Y.; 9. John Diehl, Jersey City; 10. Vincent Bonnema, Clifton, N. J.

BEAUTY EXHIBITION— Scale Model

1. Albert C. Mueller, Buffalo; 2. Raymond O'Neil, Philadelphia; 3. Arthur Hasselbach, N. Y. C.; 4. Angelo J. Campanella, Wilkes-Barre; 5. E. Babcock,



Jr., Morris Plains, N. J.; 6. Fred Nisar, New Rochelle; 7. E. M. Costello, Jersey City.

BEAUTY EXHIBITION— Non-Scale Model

1. R. J. Hartlieb, Jr., Allentown, Pa.; 2. "Speed" Ambler, Cleveland; 3. J. Abirasinski, N. Y. C.; 4. E. J. Swenton, Syracuse; 5. L. J. Andrews, Bridgeport, Conn.; 6. P. E. Bender, Toledo, Ohio; 7. R. Porter, Stratford, Conn.; 8. Paul E. Bender.

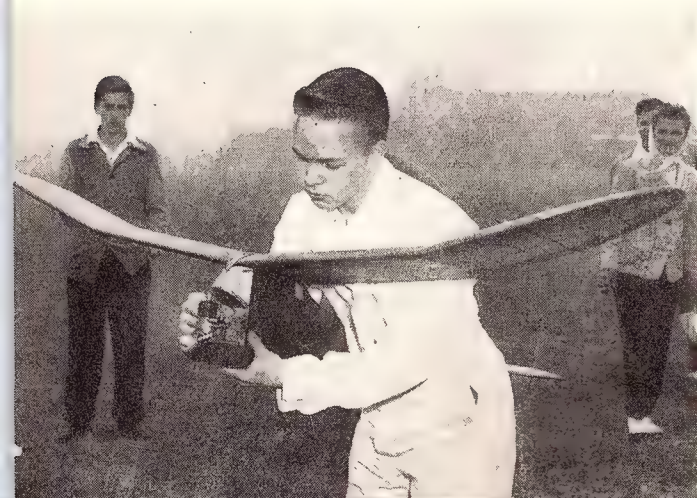
JET EXHIBITION

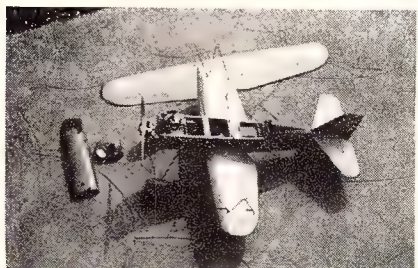
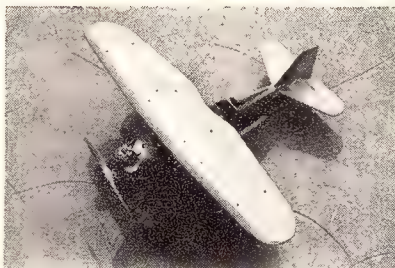
1. Richard W. Mahoney, S. Orange, N. J.; 2. Daniel J. Mass, L. I. C.

GRUMMAN EMPLOYEES (Special Free Flight Class)

1. Francis Savarese, N. Y. C.; 2. Walter Herr, Wyandanch, N. Y.

Left—A big baby in the Free Flight Class. Harold Knight, of Garden City, with his 63" wingspread, Class C job. Right—The Flying Hornets from Perkaspie, Pa. Their eight members entered a total of 13 models in all classes.





CIRCLE JERK

By JOSEPH FLOR

HERE it is fellas, hot off the old work bench. I call it the "Circle Jerk", a scale Curtis Hawk P6E. This baby is powered by a Mighty Midget which gives the ship plenty of power. Props used are either 10-8 or 11-8.

The fuselage is the conventional built-up construction made from $\frac{1}{4}$ " square balsa wood. The entire ship is covered with $\frac{1}{16}$ " sheet from section 6 forward. The bottom is covered with $\frac{1}{8}$ " sheet for strength. From the top of section 6 to 1 is removable and held in place with dress snaps or rubber bands. One-eighth inch stringers are used throughout the fuselage. The piece of $\frac{1}{4}$ " by $\frac{1}{2}$ " pine gives the motor mounts added strength. Motor mounts are made from $\frac{3}{8}$ " by $\frac{1}{2}$ " and are either bolted or dowelled to the motor mount supports. Nuts are glued underneath the motor mounts and, when the motor is installed, drop bolts through motor mount lugs, through pine motor mounts and screw down tight. The motor is set at from 3° to 5° right thrust to keep lines taut.

The gas tank is made from .005 inch brass shim stock and is designed so there would be a continuous flow of fuel to the engine without it cutting out. This material is used because it is very easily soldered. Use the metal end of a valve filling tube and a valve cap for the gas stem, taken from a tire tube, for the tank cap. One-eighth inch copper tubing is used for the air vents and gas line lead.

The swivel tail wheel is made from $\frac{1}{16}$ " wire and mounted as shown. Use $\frac{7}{8}$ " diameter sponge rubber wheels.

Wing struts mounted on the fuselage are made from 8" bicycle struts and bolted on the fuselage as shown with four bolts and brackets. Struts are bound with copper wire and soldered. The ribs are made from $\frac{1}{8}$ " sheet, except two bulkheads which are made from $\frac{1}{8}$ " plywood. For the landing gear, use $\frac{1}{8}$ " wire.

The wheel pants are first started by making a balsa wood form, similar to the one shown on the drawing. Sand smooth and apply a light cover of vaseline. A

sheet of newspaper is cut into strips $\frac{1}{2}$ " to 1" wide. The smoothness of the finished pants depends upon how you apply the strips to the form. The first layer of strips are soaked in water and put on wet so as not to stick to the form. The next three or four layers are put on with a mixture of glue and dope. Sand smooth; cut in half; pull the shells from the form and glue together. The pants are attached to the landing gear by cement-

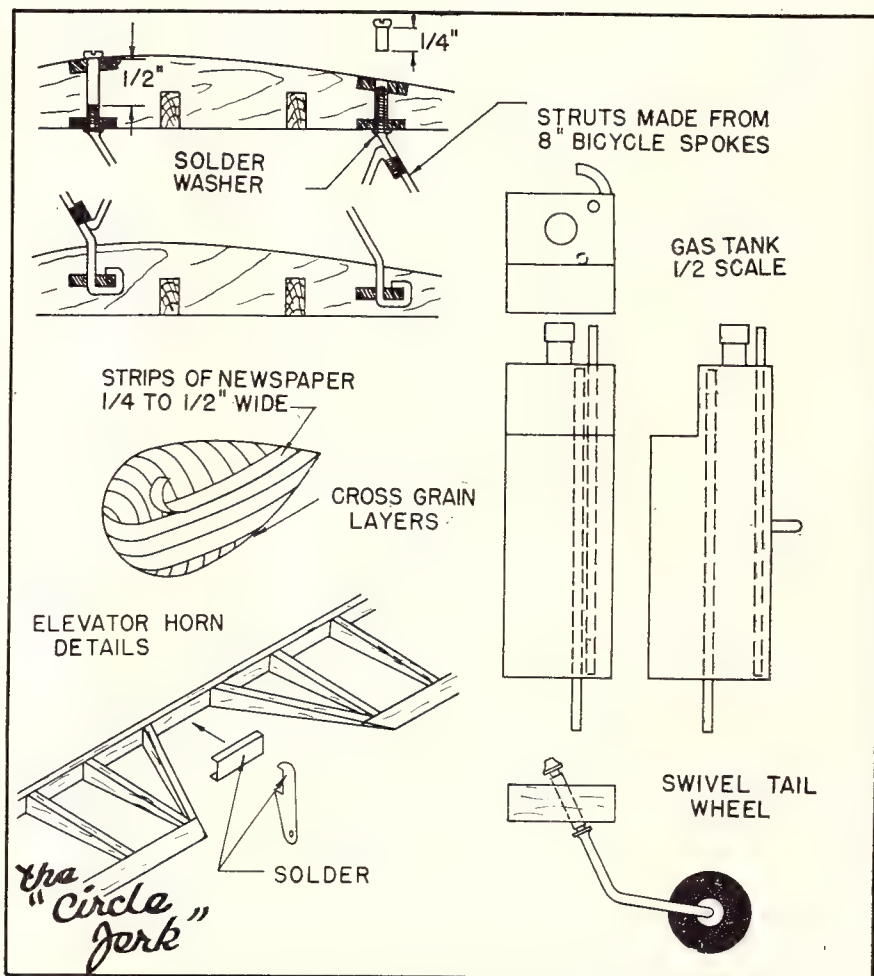
ing a piece of $\frac{1}{16}$ " wire to the inside of the pants, then bind with copper wire and solder to the landing gear. I have tried many ways in which to attach pants to the landing gear and found this to be the best.

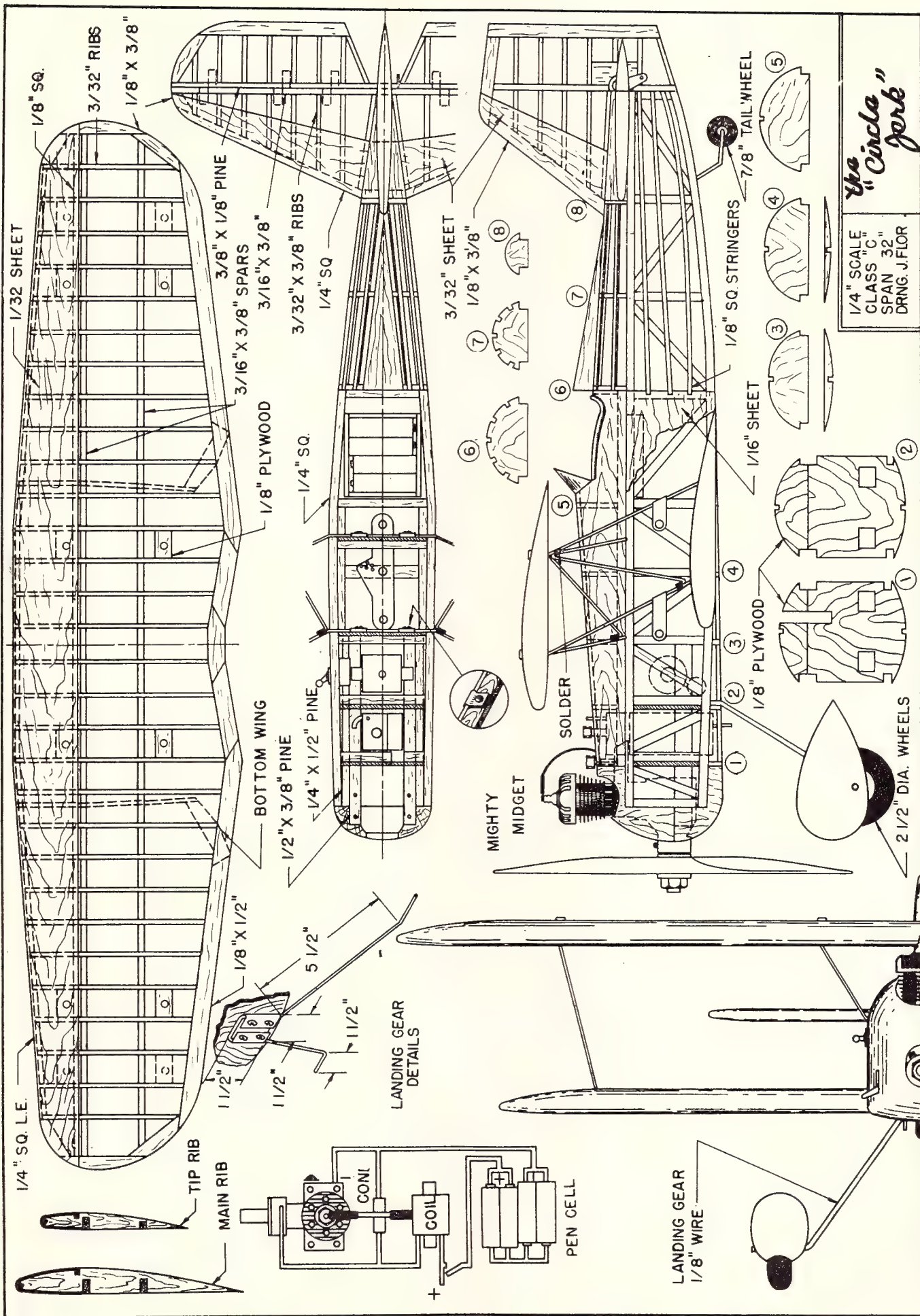
The control plate is made from $\frac{1}{16}$ " metal and control plate wire from $\frac{1}{16}$ " wire to horn on the elevator.

The two wing spars, $\frac{3}{16}$ " x $\frac{3}{8}$ ", and the trailing edge are pinned down and the ribs glued in place and the leading edge glued on. For the leading edge of the top and bottom wing, use $\frac{1}{32}$ " sheet. Wing strut supports are made from $\frac{1}{8}$ " plywood and glued in place between ribs in top and bottom wing. The bottom wing is either made in two sections and glued to the fuselage or in one whole section and glued to the fuselage by cutting two grooves for the wing spar for same. Install the wing struts as shown, on the bottom wing and solder the wire guides to strut.

The stabilizer is made from all balsa wood except for the main spar in elevator, which is $\frac{1}{8}$ " x $\frac{3}{8}$ " pine. The control horn is bound and glued to this. The stabilizer and rudder are built in conventional manner.

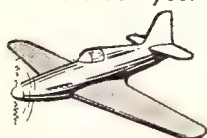
The ship is covered with silk for additional strength. Color scheme is blue fuselage with yellow stripes. Wings and empennage are yellow with blue trim. The ship was built for realistic flying and was designed with a large wing area for stunting. It looks beautiful while flying and performs like the real thing!





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Wayne Mathews carves his winning prop while Chester Edsidn, his mechanic, looks on. Mathews placed first in Class VI of East-West Finals.

CALIFORNIA EAST-WEST FINALS

THIRTY-FIVE entries from various parts of California assembled at Washington Park, Alameda, Calif., competing for the finals of the East-West Championships which will be held at St. Louis, Mo., Sept. 6th and 7th. Contest started at 9:00 A.M., featuring close competition in all classes of Precision and U-Control. Several models were wrecked due to crashes. While no new official speed records were broken, the consistency of Wayne Mathews, of Alameda N. A. S. Aero-Modelers Club, in making four flights and all better than 120 MPH in Class IV was remarkable and demonstrated the pilot's skill and his design to be of high order. Malkolm Anderson, of the same club, demonstrated his skill in winning Class II competition with a speed of 85.51 MPH. Anderson designed his

own plane and built his own motor—a winning combination.

Results of the contest follow: Class I: First—Bud Jamieson, Huntington Park, Calif., 49.18 MPH; Second (no contestant). Class II: First—Malkolm Anderson, Alameda, Calif., 85.51 MPH; Second—Ed. Kroll, San Francisco, Calif., 68.33 MPH. Class III: First—T. Burris, Long Beach, 104.34 MPH; Second—R. Gregson, Los Angeles. Class IV: First—K. Conrad, Los Angeles, 68.96 MPH; Second (no contestant). Class V: First—K. Storey, Los Angeles, 120.64 MPH; Second—W. Wallick, Long Beach, 120.00 MPH. Class VI: First—W. Mathews, Alameda, 123.28 MPH; Second, B. Thomas, Anaheim, 123.28 MPH. Precision: First—D. Gullota, Burbank, 235 points; Second—E. Landsberg, Hollywood, 201 points.

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ATLANTA ANNOUNCES BIG RACE

WHETHER you know it or not we are racing cars here in the South. We have a club here in Atlanta with 42 members who are real race car bugs. Every Sunday afternoon the bunch is out at the track located at the Sports Arena on Memorial Drive. We have a 24th mile cable track which is not the best in the country but not too bad. We had some bad luck on ours. It rained right after the concrete was poured and sort of ruined the surface but we hope to put a topping on it soon and have the finest there is. We will have it fixed in time for the big race even if Cliff Drennon has to pay for all of it.

Right now we would like to tell the boys who have a board crash rail to take it down. We replaced ours with a darn good steelwire fence—went to music wire cable and Sunday at our regular monthly race speeds increased almost generally by 9 miles. Yep! we don't catch on so quick down hea!

Now for the news—the real news. We will have, rain or shine (indoor if it rains) the gol-durnedest, whompinest big race you ever seed on September 20 and 21, to be sanctioned AMRCA. It'll be known in these parts as the South-Eastern Open Championships. Both Spur and Proto with prizes and trophies that will rival even Sen. Claghorn Brennan's collection last New Years. (*Right now I'd like that d-Yankee Joe Gaebler to know that it don't snow here in September.*) We want everybody to know that a special invitation is being sent to Bill Thomas (*another Southern boy*) to be here with his 120.32 mph car. If you want to see that car boy, you'd better look at it standing still cause you can't see it when it runs. Also if Bill gets it going like it was in Eustis, we'll promise him a couple more miles.

For more information as it is available, send by U. S. Mule to the writer care Hobbies, Inc., 977 Peachtree St., Atlanta, Georgia.

Anyone who happens to be here on a Sunday drop by the track and run with us. . . . *Bill Arnold.*

The results of our last club race May 18th—

	SPUR	MPH
Bill Arnold (McCoy-McCoy)	109.75	
Jack Coppage (McCoy-McCoy)	107.14	
Walt Glatthaar (McCoy-Hornet)	102.85	
M. A. Olson (Mathews-Hornet)	98.90	
C. Drennon (McCoy-McCoy)	95.74	
John Hames (McCoy-McCoy)	82.56	

	PROTO	MPH
J. Coppage (Invader-McCoy)	105.88	
C. Simmons (Invader-McCoy)	98.90	
J. Graden (Invader-Hornet)	98.90	
K. Monroe (Invader-McCoy)	98.90	
B. Arnold (Invader-Hornet)	98.37	
R. E. Patrick (Invader-Hornet)	90.00	
Dan Dyer (Invader-McCoy)	86.53	
E. Haney (Invader-McCoy)	83.71	

81 CARS TAKE OVER AT KANKAKEE

HARRY LAFLAMME is a very proud boy these days, after seeing a very successful race run off at his 1/4th cable track in Kankakee, Ill. A field of 81 cars featured the day, with George Coffield sending his Spur Gear car around the ribbon at 113.78 MPH to set the high mark for the day. Johnny Mayfield cleaned the field in the Proto Division with a mark of 105.01 MPH. Results follow:

	PROTO	MPH
John Mayfield, Waukegan, Ill.	105.01	
Gus Meyer, Flint, Mich.	104.40	
Milton Davis, Harvey, Ill.	103.32	
Clayton Johnson, Waukegan, Ill.	103.21	
Roy Wyckoff, Jr., Chicago, Ill.	102.73	
Hazel Gabler, Indianapolis	101.69	
Pete Sneiderman, Lafayette, Ind.	101.23	
John Crossan, Rock Island, Ill.	100.89	
John Carlson, Harvey, Ill.	100.55	
Jim Gilmore, Fresno, Calif.	100.22	
John Brake, Waukegan, Ill.	99.77	
Mrs. R. Wyckoff, Harvey, Ill.	99.35	
Gene Wallace, Indianapolis	99.00	
Virgil Cundiff, Danville, Ill.	98.90	
Dr. P. Fleener, Paris, Ill.	98.68	

	SPUR GEAR	MPH
George Coffield, Rock Island, Ill.	113.78	
Milton Davis, Harvey, Ill.	110.02	
C. Crossan, Rock Island, Ill.	108.69	
Frank Mathews, Rockford, Ill.	107.27	
Warren Borden, Zion City, Ill.	106.76	
Glenn Mathews, Rockford, Ill.	105.00	
K. C. Smith, St. Petersburg, Fla.	105.88	
John Carlson, Harvey, Ill.	104.65	
Ben Wassi, Peoria, Ill.	104.28	

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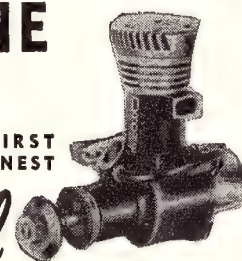
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	CONDENSER	.4 oz.	NO
	SWITCH	.5 oz.	NO
	BATTERY HOLDER	.2 oz.	NO
	WIRES	.3 oz.	NO

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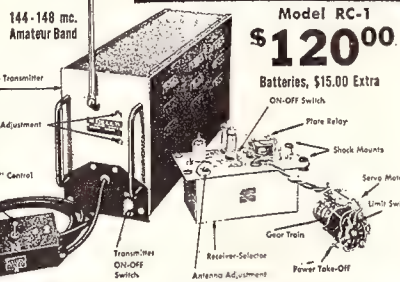
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RAIL NATIONALS

(Continued from page 7)

Elimination races will be held Saturday afternoon and Sunday morning. Run-offs begin on Sunday afternoon with the half-mile Semi-Finals followed by the Feature race of the meet, that one-mile grueling event which features four cars battling for top position. Sunday night is topped off with a banquet and the awarding of trophies and prizes.

Chicago's track is located three miles due south of Downers Grove, Illinois, on Main Street and 75th or Lemont Road which is a continuation of Main St. It is two miles north on Lemont Road of U. S. Junction Route 66. If there is any difficulty in locating the track, call or write the Corresponding Secretary, Frank J. Pawlikowski, 2305 N. Maplewood Ave., Chicago 47, Ill. Phone Armitage 5302.

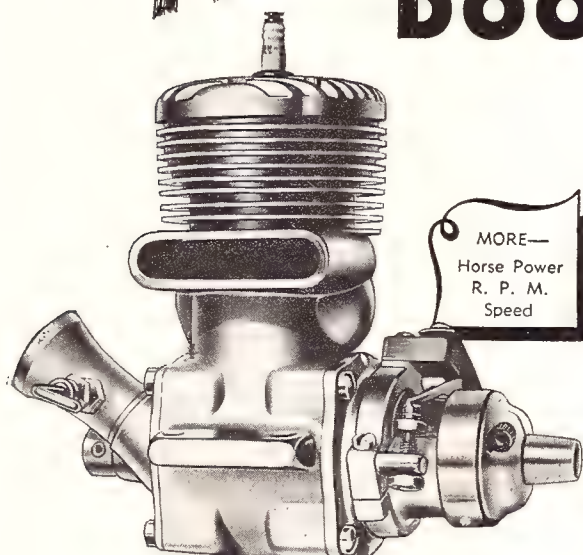
HARVEY CLUB BUILDS NEW TRACK

WHEN the frost went out of the ground this spring, members of the Harvey, Illinois Club were in for a rude surprise—the ground had sunk so badly on one side that their track could not be used. During the winter, the fence, crash wall and benches had all been wrecked. It was really a sorry sight, and enough to break the hearts of more timid people, but not the Harvey members. Their model race cars mean too

much to them to give up that easy. It was decided that it would be foolish to attempt any repairs on the old track; the same thing could happen again at their old location. So they looked around for a new spot and were fortunate enough to locate a place at the Rubenkamp Airport, at 167th St. and Kedzie Ave., in Markam. This will be an ideal location; no objection to noise, wash rooms and a food stand right on the grounds, a good solid sand base to build on, plus protection from vandalism. At a meeting, special assessment was voted for all old members and a drive for new members started. It was also decided to raffle off a car to help raise some money. Harry Dietrich, of Standard Machine Works, Inc., Indianapolis, kindly offered to furnish a Pace-maker Car for the cause, and Mike Trost of Trost's Hobby Shop in Chicago came through with a Hornet Motor for the car. (Nice going, fellas!) Red Davis, who has been the "hot-shot" around here this year, has guaranteed that the car will be track tested at 100 MPH. Chances are 50 cents each, so if any of you fellas are interested in a chance on this "super-duper" car, send your money to the writer at 4708 Ellis Ave., Chicago 15, Ill. All money raised in this raffle will go toward building the new track. The new circle will be 84-ft. in diameter, with a combination crash wall and cyclone fence, patterned after the track at Fresno. They had hoped to have the cement poured by this time, but the excessive amount of rain this spring has held up grading. . . . "Hap" Wyckoff.

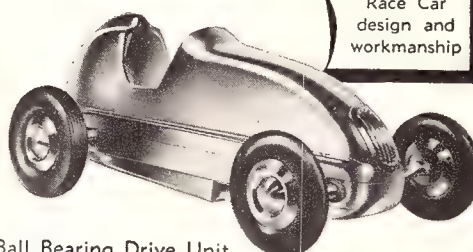
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DENVER BUILDS NEW TRACK

THE Denver M. R. C. A. has just completed their new $\frac{1}{2}$ th mile cable track, located in Englewood, three blocks west of Broadway on Hampden Ave., at the recreation center. The track is five feet wide and made of reinforced concrete. Latest design in fences has been adopted, with a combined crash rail and fence, the fence being four feet from the outer circumference of the track. The crash rail part of the fence is two feet tall and made of two by twelve lumber, the wire fence continuing from there to make a total height of six feet. If a bridle should break, the car will go straight out and hit the crash rail, whereas with the small crash rail next to the track, the car would likely catapult directly up and over the spectator fence as well.

At the present time, the boys have an electric timer and plan on building a lap counter as well. They feel certain many new records will be set for this high altitude during the coming season. Several homemade cars will make their appearance which should really *get up and go!*

Club membership is steadily growing, together with the popularity of racing. The fifty mark has already been passed, with several new members coming in at each meeting. Club meetings are held on the second Monday of each month at 1540 Lincoln St., and all visitors are welcome . . . Dick Worthen, Sec.

PRESENT SPEED RECORDS

THIS is your standing box score representing AMRCA speed records as of June 1, 1947. These are the present existing records as reported to this office, showing highest speeds established on both cable and rail tracks, type car and engine used, together with location and date of established record:

1/16th MILE CABLE TRACK

SPUR ($\frac{1}{4}$ Mile): Dick McCoy, San Francisco, July 7, 1946—116.73 MPH (McCoy Car, McCoy Engine)

PROTO ($\frac{1}{4}$ Mile): Howard Lee, San Francisco, July 7, 1946—108.95 MPH (Own Design Car, Hornet Engine)

STREAMLINE ($\frac{1}{4}$ Mile): Jim Gilmore, San Francisco, July 7, 1946—103.32 MPH (Special, Hornet Engine)

1/24th MILE CABLE TRACK

SPUR ($\frac{1}{4}$ Mile): W. Thomas, Jr., Eustis, Feb. 22, 1947—120.32 MPH (Own Design Car, Hornet Engine)

SPUR ($\frac{1}{2}$ Mile): Warren Borden, Detroit, Aug. 1, 1946—115.97 MPH (V-Car, Hornet Engine)

SPUR (1 Mile): J. Crossan, Detroit, Aug. 2, 1946—113.38 MPH (V-Car, Hornet Engine)

PROTO ($\frac{1}{4}$ Mile): Dale Martell, Waukegan, Ill., Sept. 1, 1946—113.21 MPH (Own Design Car, Hornet Engine)

PROTO ($\frac{1}{2}$ Mile): Howard Lee, Detroit, Aug. 1, 1946—107.97 MPH (Own Design Car, Hornet Engine)

PROTO (1 Mile): Howard Lee, Detroit, Aug. 2, 1946—109.02 MPH (Own Design Car, Hornet Engine)

STREAMLINER ($\frac{1}{4}$ Mile): Jim Gilmore, Detroit, Aug. 3, 1946—104.98 MPH (Special, Hornet Engine)

STREAMLINER ($\frac{1}{2}$ Mile): Jim Gilmore, Detroit, Aug. 1, 1946—102.50 MPH (Special, Hornet Engine)

STREAMLINER (1 Mile): Jim Gilmore, Detroit, Aug. 2, 1946—100.44 MPH (Special, Hornet Engine)

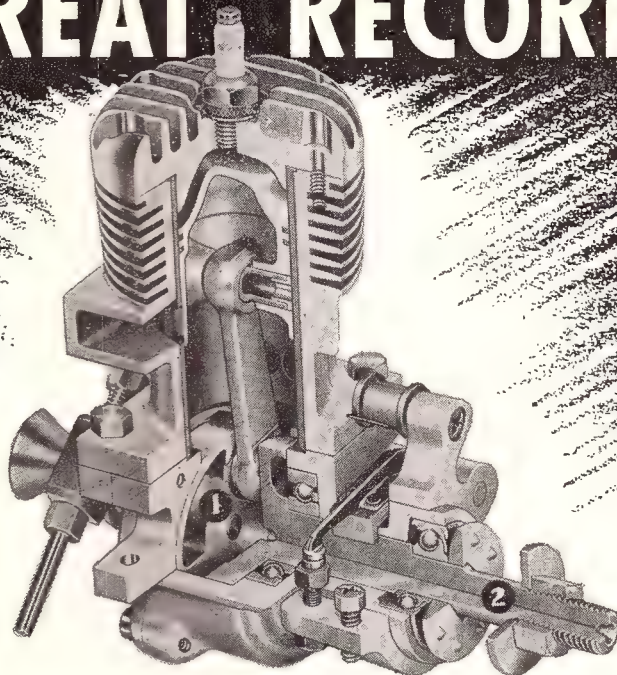
1/16th MILE RAIL TRACK

STREAMLINE: W. Weller, Chicago, Aug. 25, 1946—79.30 MPH (Hornet Engine Used)

PROTO: Frank Pawlikowski, Chicago, May 24, 1947—80.86 MPH

July, 1947

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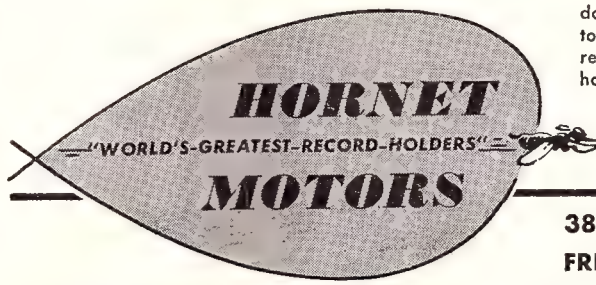
\$35.00 MODEL "60-A"

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These are a few of many HORNET records:

- Spur Gear Record, Waukegan, Ill., Sept. 1, John Crossan, V car Hornet powered, 118.27; Dale Martell, Proto Hornet powered, 113.21; Loose Memorial, Fred Luning, Spur Gear Hornet powered, 118.73; W. T. Thomas, Jr., New Spur Gear Record, Own Car, Hornet powered, at Eustis, Florida, 120.32.
- Speed Boats: Joe May, Detroit, Mich., July 4-6, 1946, new world record in Class D and E, speed 65.53 m.p.h., winning Gar Wood trophy and Model Craftsman plaque.

If your local hobby dealer does not have HORNET motors in stock, we will ship direct from factory within 24 hours of receipt of order.



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CABLE NATIONALS

(Continued from page 7)

and gathering exactly what it should be, namely: The AMRCA Annual Convention and Championship Races.

A convention should be properly conducted for the purpose of transacting as much association business as possible, in both an orderly and routine manner. This coming get-together must be planned in full detail so that each member present will know that his wants and desires reach the floor for a decision of the majority. In order to accomplish this, the Sponsor Club and the AMRCA Secretary have arranged for an Open Board Meeting so that members interested in bringing matters pertaining to Policy, Rules, Amendments and suggestions to the attention of the Board of Directors, will be heard in full. Later, in General Assembly, these matters will be presented in concrete form to the entire body for discussion and ballot.

Bear all this in mind when you next gather at your club meetings and get the general opinion from your fellow members on controversial matters to enable you to vote for the will of the greatest number.

Due to the large entry list expected, the following tentative rules and regulations will very likely be in force: (1) Official 1947 American Miniature Race Car Association Rules will be recognized and enforced. (2) There will be only two classes run, namely 60A Conventional Prototype and 60C Spur Gear. (3) Two elimination heats will be run in the 1/4 mile, 1/2 mile and 1 mile. (4) A contestant will be allowed to race only two cars in any Class, though he may enter in both Classes and in each of the three distance races. However, only one trophy will be presented to any winner in each race. (5) The Final Championship Run-Off will be for the winners only of the elimination heats. Finals will consist of two heats each for the 1/4, 1/2 and 1 mile Proto and Spur. (6) Proxy cars will be handled by a special committee unless the owner designates another qualified person to run his entry. If this is done, the proxy contestant must have

the written permission from the owner and it must be available to the race committee. (7) Entries will be received until the beginning of the last heat of the last race but the contestant can only enter the race then running. None but winners of heats are allowed to face in the FINALS which will be run off on Sunday, August 17th. (8) Entry fee for each car will be \$3.00 and entitles the contestant to enter each of the three distance races provided he uses the same car otherwise another fee must be paid.

Hotel room reservations may be made through the AMRCA Secretary for a nominal fee of \$1.00.

FLASH! Arrangements are being made for a special 44-seat car reserved for those AMRCA members going to the Nationals in a group via railroad. The Special leaves New York at 6:15 P. M., E. S. T., No. Phila. 7:43 P. M., Washington 6:20 P. M., Baltimore 7:05 P. M. and will arrive at Indianapolis at 9:13 A. M., C. S. T. Stopovers are also made at both Harrisburg and Pittsburgh where fans may join the group. The Special will leave either August 12th or 13th, so contact immediately E. D. Fitzgerald, c/o Hotel Governor Clinton, 7th Ave. and 31st St., New York City, for full information and seat reservations.

NATIONALS PROGRAM

Thursday, August 14th:

- 9:00 A.M.—Registration and Hotel Assignments
- 11:00 A.M.—Start of first 1/4 mile heat. (both classes).
- 2:00 P.M.—Racing continues (if first 1/4 mile heat completed, start of first 1/2 or 1 mile heats).
- 7:00 P.M.—Closed Board Meeting of AMRCA Officers.
- 8:30 P.M.—Open Meeting for Association Business before Board.

Friday, August 15th:

- 9:00 A.M.—Racing continues from previous day. All contestants to have a run in the 1/4 mile heat.
- 8:30 P.M.—AMRCA Convention in General Assembly. (*Parliamentary Rules of Order will prevail*).

Saturday, August 16th:

- 9:00 A.M.—Second Heat in both classes.
- 8:00 P.M.—Convention Banquet. Nomination of Officers for 1948. Awarding of Trophies to ten First Place Winners in each heat of each class in each three distances.

Sunday, August 17th:

- 10:00 A.M.—Run-off of Final Championship Races for first three winners of each heat in each class and race. Award to each participating contestant who completes one heat.

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SALINA BOYS ROLL ON NEW TRACK

By JOE ADDISON

SSPINDIZZY fans out Salina, Kansas, way opened their new track on Memorial Day. The prevailing odor was very unorthodox during the early part of the meet. It appeared as if some moth balls might still be clinging to a few of the cars. After one or two heats, some of the fellows came up with headaches. *You just can't dig 'em out and expect 'em to roll—a little fixin' is definitely in order after a few months of relaxation.*

Highlight of the day finds B. Smith thinking that BEAN cans make better gas tanks than Tomato cans do, however a little more plumbing is still in order for Smith to acquire a desirable speed. "Corky" St. Clair seems to be wondering whether the new mechanic knows his biz. E. Vernon set the Spur record and B. St. Clair set the Proto record for the day, both of which are faster than the old track records. It appears that the Salina boys might get 'em cooking this year and come up with better speeds than in the past.

Lt. Preston flew in from a southern airfield to try out his Proto on the new track. *(The boys will be glad to see "Pres" back to stay with us.)* Some of the fellows had a bit of tough luck and didn't come in with any time, but will probably do a bit of driving Sunday following.

The new track is all electrically operated and has an ideal location in a well shaded area, with picnic grounds, running water and rest rooms adding to its merit. A small creek runs near by as an added attraction for some of you gents. If your vacation brings you this way, bring along your wagon and get ready for some real racing.

Additional plans are being made for the Kansas State AMRCA Sanctioned Meet of July 20th (rain date July 27th).

Results follow:

SPUR GEAR	MPH
E. Vernon (McCoy-Hornet).....	105.89
J. Addison (McCoy-Hornet).....	104.65
C. St. Clair (Mathews-McCoy).....	102.27
B. Smith (McCoy-Hornet).....	97.82
J. Barrett (McCoy-Hornet).....	No Time
L. Cross (McCoy-McCoy).....	No Time
C. Hayes (McCoy-McCoy).....	No Time

PROTO

W. St. Clair (Pacemaker-Hornet).....	91.84
Lt. Preston (Dooling-McCoy).....	88.24
R. Leiker (Dooling-McCoy).....	86.54
J. Smith (Dooling-Hornet).....	No Time

TRI-CITIES TRACK SOON READY

THE Tri-Cities Club of Endicott, N. Y., have "gone to town" on their new track, which is probably ready for the first car by this time. On May 28th, the concrete was poured. With the enthusiasm shown in getting the track ready to receive concrete, the new ribbon should be well on its way and well broken in.

According to their Secretary, Dave

July, 1947

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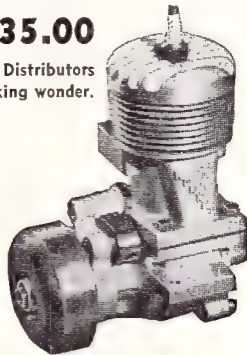
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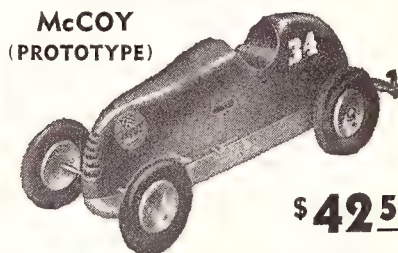
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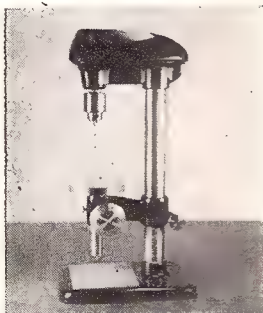
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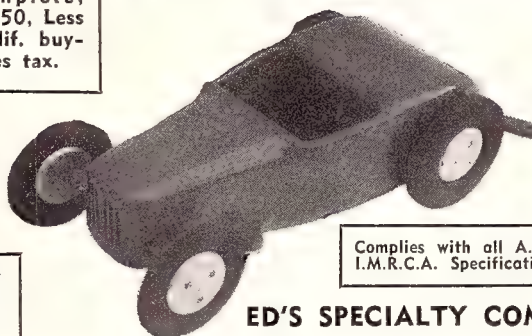
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BELL, CALIF.

Reed, the fellows are all acting like a bunch of little kids with some new toy. (*Why not?*) In fact several of them have been caught on different occasions sitting in their cars and gazing at the track with that certain "moon-struck" look.

All materials and a portion of the labor was donated by civic-minded businessmen of that area and we take our hats off to them! So all you fellows who want to run on a new $\frac{1}{20}$ th mile track, contact Dave Reed, Box 11, Vestal, N. Y., or simply take a run out to the Tri-Cities Airport on any Sunday.

LUNING AND ROBERTSON TOP LONG ISLAND RACE

LONG ISLAND Auto Racing Society held their Championship Race on Sunday, June 15th, with the Championships going to Fred Luning in the Spur Gear Class with 115.23 MPH, and to Frank Robertson of Houston, Texas, in Proto with a neat 112.78 MPH, just shy of that established record of 113.21 MPH, set by Dale Martell at Waukegan, Ill., last season.

Prizes for this race were generously donated by Manufacturers, Dealers and Magazines interested in this growing sport. Results of the meet follow for $\frac{1}{4}$ mile heats ($\frac{1}{2}$ th mile track):

PROTO	CAR-MOTOR	MPH
F. Robertson, Houston, Texas (Own-Hornet)		112.78
Comdr. E. L. Luke, Wash., D. C. (Pacemaker-Hornet)		107.52
F. Wolf, N. Y. C. (Pacemaker-Hornet)		104.40
Frank Luning, L. I. (McCoy-McCoy)		101.12
J. Cululi, Beth., Pa. (McCoy-Hornet)		99.78
P. Eberhardt, N. Y. C. (Own-Hornet)		99.34
W. Flynn, Bklyn., N. Y. (Pacemaker-Hornet)		98.68
J. Hollidge, Marshfield, Mass. (Own-Hornet)		98.14
P. Carpenter, Conn. (McCoy-Hornet)		97.93
R. Winscher, Franklin Sq., N. Y. (Own-Hornet)		97.73
T. Jacobs, N. Y. C. (Own-Hornet)		97.30
N. Tucci, Bklyn., N. Y. (McCoy-McCoy)		95.14

SPUR GEAR

Fred Luning, L. I. (McCoy-Hornet)	115.23
F. Pogachnik, L. I. (McCoy-McCoy)	111.52
S. Prussian, Boston (McCoy-Hornet)	110.42
B. Smith, Conn. (McCoy-Hornet)	109.35
F. Valeo, Roslyn, L. I. (McCoy-Hornet)	109.09
J. Thorp, Bronx, N. Y. (Own-Hornet)	108.04
J. Gorsky, L. I. (Mathews-Hornet)	107.14
F. Wolf, Flushing, N. Y. (McCoy-McCoy)	106.76
J. Jaciow, Boston (Mathews-Hornet)	106.38
G. Beard, Haddonfield, N. J. (McCoy-Hornet)	105.38
A. Lieb, Reading, Pa. (Mathews-Hornet)	105.26

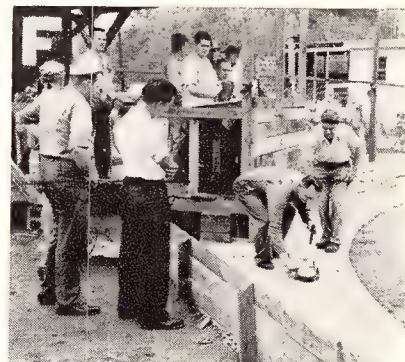
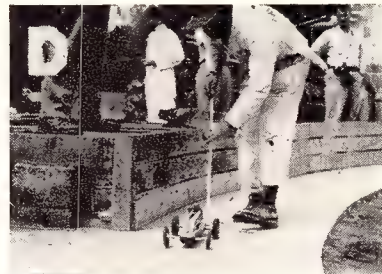
A half-mile run for the first five winners in each class was held, aimed at the established record for $\frac{1}{2}$ -mile on a $\frac{1}{2}$ th mile track. As the record now stands at 107.97 MPH for the Proto Class, there was an excellent chance to do this. The Proxy Committee composed of Fitzgerald, Valeo and Luning made a valiant attempt to bring Robertson's car up to "peak" speed before it ran out of gas but failed.

PROTO ($\frac{1}{2}$ -Mile Heat)

Comdr. E. L. Luke	105.34
Frank Wolf	104.28
Frank Robertson	102.08

SPUR GEAR ($\frac{1}{2}$ -Mile Heat)

Bob Smith	110.70
F. Pogachnik	110.56
Fred Luning	110.29



"A Cable Track is born in Washington." (A)—April 19th, the boys face their problem—rough ground. (B)—Commander Ross Bullard "breaks ground." (C)—Meet the membership "work crew": left—F. Schell, Bob Kirwan, J. Beveridge, M. Adams, Comdr. Bullard, H. Robertson. (D)—President W. Ison puts first car on track. (E)—Partial view of track, pit area to right. Note 12-ft. diameter area at center post. (F)—May 11th, P. Schlosser and G. Lundy help start a McCoy-Hornet.

WASHINGTON SPORTS NEW 70-FT. TRACK

It was only a short few weeks ago that we heard from the Washington, D. C., Club regarding their $\frac{1}{2}$ nd mile cable track. In this short lapse of time, the picture has changed, for on the 19th of April the Club obtained a lease on a piece of property suitable for race track construction, and on the same day the first earth was moved. Two weeks and a day later, the Club was actually racing on a very new 70-ft. track complete with the following facilities: A track as smooth as anyone has ever encountered. A check with a transit reveals that the entire track surface is level to within $\frac{1}{32}$ " tolerance. A solid wood crash fence, 1" thick and 18" high. A six-ft. cyclone fence completely enclosing the track and pit area. This section may be entered through only one entrance, which has a lock on both sides of the gate. Timer and Judges Stand. Over

75 lineal feet of work bench space. An electric starter and 35-watt P. A. System. Last but not least, a confirmation of their order for a standard electric timer, complete with all necessary starting and stopping relays, the dial graduated in $\frac{1}{100}$ th second units.

In view of these features, the boys naturally feel their track now compares with the best. Very fortunately, they are located next to a small restaurant which serves fine food. This is the second cable track financed and constructed by the Washington Club within the past ten months. Naturally, many obstacles were encountered and taken in their stride. This experience has given them a wealth of information on this type construction. Other clubs considering construction of a cable track might well profit by this experience.

Due to public appeal, a five-year lease

was obtained from the restaurant owner for only one dollar per year. After only a few weeks of operation, this has proven successful for the owner.

Adequate preparation and leveling of the chosen site before actual construction is started is *imperative*. Many dollars can be saved by using Club Membership for the non-skilled trades involved in construction.

Cement finishing *MUST* be done by the best qualified finishers available, even if at extra cost. During the pouring and finishing of the concrete, forms should be constantly checked and re-checked with a transit to insure a level track.

The Washington Club issues an open invitation to any AMRCA member plan-

ning to be in Washington to come over and make a few runs on their new track. Normally, the boys race from one P. M. until dark each Sunday, but will do their best to make special arrangements at any time.

NEW ORLEANS HAS BUSY WEEK-END

By BILL WUNDERLICH

A CROWD of many hundreds of excited people saw a full three days of racing here in the Crescent City over the week-end of June 1st. With the start of racing on Memorial Day, followed by a day of preliminary speed trials and climaxed by an open meet on Sunday, the fans had a full program of speed and noise to keep them entertained at the Pontchartrain Beach Speedway.

The final day of racing was hot and humid and top speeds were relatively low. The little cars however, were very evenly matched and the crowd thrilled to a three-way tie for first place and a two-way tie for second, with cars entered from Monroe, La., Mobile, Ala., San Antonio, Texas, and New Orleans, La. Interest was at fever heat and there was never a dull moment during the four hours of stiff competition.

Fran Brennan brought his boys down from Monroe, La., to even the score with the New Orleans Club, but they were not quite able to get their cars into the top places although they did put up quite a battle. Monroe cars are fast and always dangerous as a competitor and the New Orleans boys are wondering if they will be able to make it three in a row when they visit "Senator Claghorn" in Monroe next month.

One of the Mobile cars slipped a fast one over on the locals and romped home with a first place in Proto, but all other trophies remained in New Orleans to the entire satisfaction of "the boys from the Deep South." Trophies were awarded as follows: Spur Gear Class, Henry Heymann, Jr. (first), Morrie Eakin (second), John L. Jelks (third). Proto Class, P. J. Allred (first), B. Bailey (second), John L. Jelks (third).

AMRCA SANCTIONED MEETS FOR 1947 SEASON

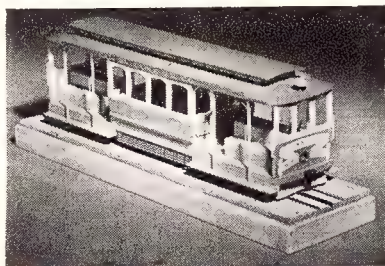
- July 6.....Eastern Regionals at Long Island, N. Y.; Mid-West Regionals at Waukegan, Ill.; Southern Regionals; Western Regionals.
- July 13.....St. Louis, Missouri
- July 13.....Akron, Ohio
- July 13.....Detroit, Mich.
- July 20.....Bakersfield, California
- July 20.....Indianapolis, Indiana
- July 20.....Salina, Kansas (State Meet)
- July 21.....Bakersfield, Calif.
- July 27.....Columbus, Ohio
- July 27.....New Castle, Indiana
- Aug. 3.....Harvey, Illinois
- Aug. 10.....Forest City, Cleveland, O.
- Aug. 10.....Kankakee, Illinois
- Aug. 8, 9 & 10. Rail Nationals, Chicago, Illinois.
- Aug. 14, 15, 16 & 17.....Cable Nationals, Indianapolis, Indiana
- Aug. 17.....Hartford City, Indiana
- Aug. 17.....Long Island, N. Y.
- Aug. 24.....Bakersfield, California
- Aug. 24.....Harvey, Illinois
- Aug. 27.....Bakersfield, Calif.
- Aug. 30, 31.....Detroit, Mich. (Midwestern Champ.)
- Sept. 1.....Harold Loose Memorial Race, Long Island, N. Y.
- Sept. 7.....Boston, Mass.
- Sept. 7.....Lafayette, Indiana (All-Proto)
- Sept. 14.....Peoria, Illinois
- Sept. 20 & 21 Atlanta, Georgia (Southern Championships)
- Sept. 21.....Detroit, Mich.
- Sept. 28.....Bakersfield, California
- Sept. 28.....New Castle, Indiana
- Oct. 5.....Detroit, Mich.
- Oct. 11, 12.....San Francisco, California
- Oct. 19.....Long Island, N. Y.
- Nov. 11.....Monroe, La. (2nd Annual Classic)

Above dates and locations are subject to change by request of Clubs concerned.

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- Street Detail Incorporated in Base
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SIDE PANELS PAINTED
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Hasbrouck Heights, N. J.

6783 ITEMS FOR THE MODEL HOBBY AND CRAFTS DEALER

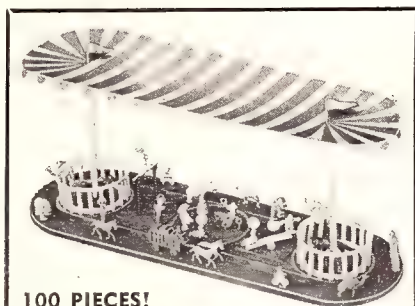
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| • 6 Performing Clowns | • 3 Bareback Riders |
| • 3 Giraffes | • 3 Tightrope Cyclists |
| • 6 Lions | • 6 Walking Elephants |
| • 3 Camels | • 3 Calliopes |
| • 9 Horses | • 3 Ring Cages |
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and also: one large 3-ring circus peg-base along with trapeze uprights, cross bars, drums, balls, see-saws, flags, etc.

GAYLY COLORED, finely molded plastic. Each piece carefully detailed with peg-bottom which fits into peg-base or your model layout affording endless variations. ORDER KIT #9. **\$2.98**
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ALONG THE TINPLATE TRACK

(Continued from page 16)

one of the most fascinating that has yet turned up in tinplate, and we hope to bring it to these pages in a few months' time.

The point we would like to remark upon here however, is that no matter how Carlisle & Finch's present status as the makers of the first American electric trains may eventually be altered, if at all, it will have little effect upon their overall historical importance. Regardless of who may have made the first electric train, it was unquestionably Carlisle & Finch who established the electric train on a satisfactory basis, who were the first real manufacturers of a line of tinplate electric trains, and who laid the groundwork for much of the present day conception of an electric train line and its promotion.

If, for example, you pick up virtually any Carlisle & Finch "Catalogue 'B'," the catalog series which listed their electric trains, motors, dynamos, gas engines and related products, you will find it a direct ancestor of any of your modern catalogs. Here, even in some of the earliest C & F issues of late 1890 and early 1900 are most of the essentials of a modern tinplate catalog and much of the style of arrangement. Starting in either 1901 or 1902, there is even the picture of the factory. One finds the usual listings, separate street cars and locomotives, freight and passenger trains, then separate cars,

accessories, track and switches, and complete outfits, some with two locomotives.

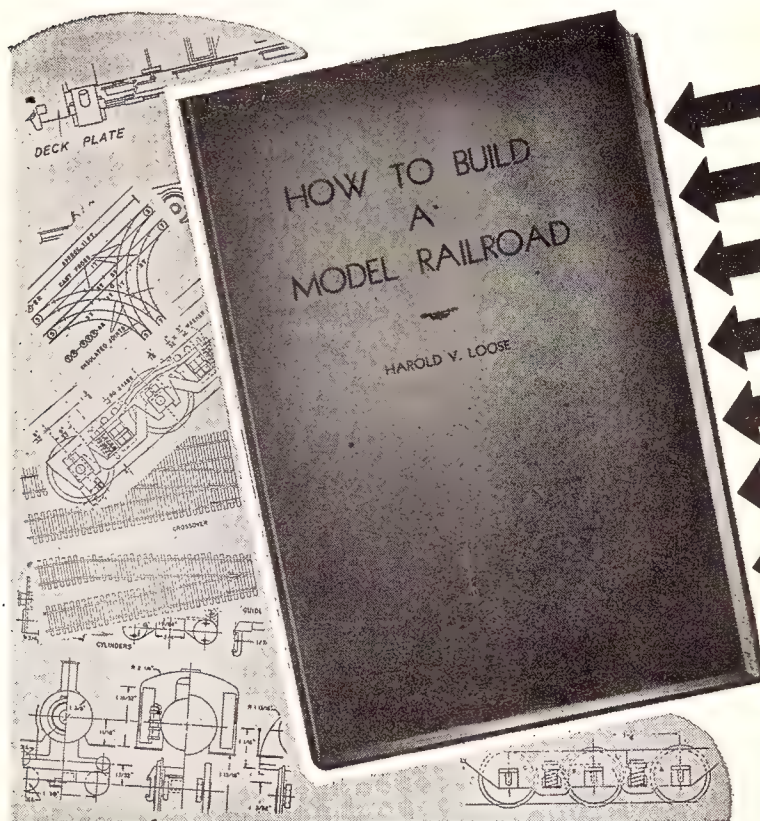
Two things not found in later tinplate catalogs only serve to emphasize their similarities in other respects: the list of agents who handled Carlisle & Finch products, which appears on the title page of the catalogs up to and including the 1912 issue, and the testimonial letters from satisfied users which are scattered throughout the catalog pages.

Realizing how many of these now automatically accepted conceptions spring from the pioneer developments of Carlisle & Finch, such as the suggestion to purchase extra cars and the presentation of offerings of separate accessory items to expand a layout, it is difficult to realize that they were operating in completely virgin territory. Prior to the advent of the C & F trains and their advertising them direct to the consumer through leading magazines of the day, tinplate trains had generally been sold to jobbers and then to dealers who had finally placed them into the hands of the users (or their parents). Manufacturer's names and identities were virtually unknown to the public.

The advent of the Carlisle & Finch electric train line changed this. Repeat sales were desired. Outfits were to be built up and expanded. Identification of the source of supply now became highly desirable and consumer tinplate catalogs came into being. The importance of Carlisle & Finch's introduction of this kind of merchandising cannot be under-

HOW TO BUILD A MODEL RAILROAD

A MUST FOR BEGINNERS—A REFERENCE BOOK FOR VETERANS



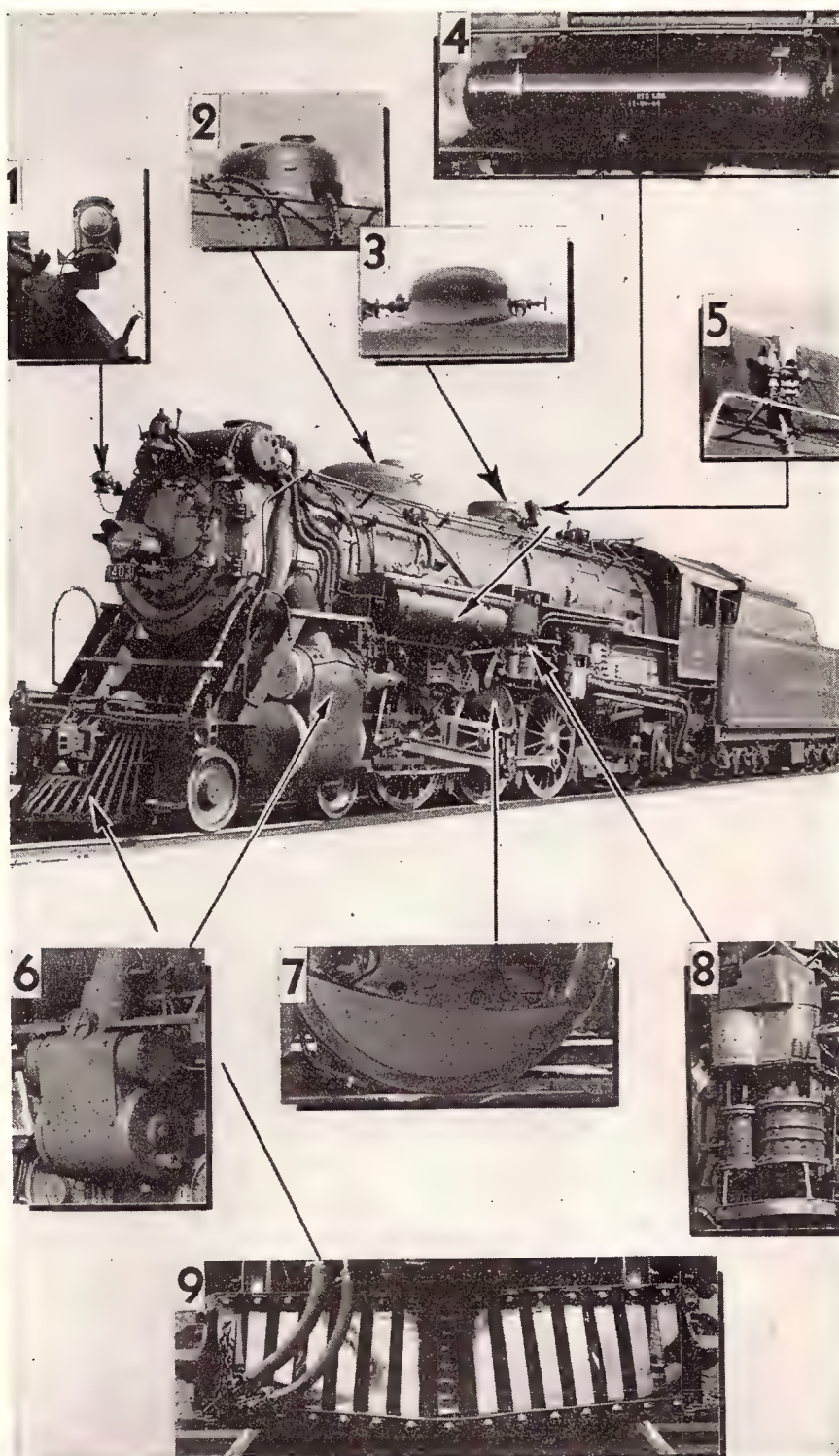
- CHECK THESE FEATURES**
- GETTING STARTED—A complete, practical explanation of Model Railroading.
 - TRACK LAYOUTS—A study of Track Design covering the smallest to the largest layouts.
 - TRACK LAYING, the know-how of laying track, short cuts and correct methods.
 - POWER SUPPLY & CONTROL, a knotty problem, explained in simple language.
 - LOCOMOTIVES, classification, best construction methods and detailed plans.
 - CAR CONSTRUCTION, a thorough treatise on how-to-build both freight and pass. cars.
 - SCENIC ACCESSORIES—How-to-build practical scenery, right-of-way equipment, etc.

This new edition of HOW TO BUILD A MODEL RAILROAD has been COMPLETELY revised right up to present day standards. It has many new plans and illustrations (more than 75 included.) The spiral binding permits pages to lie flat for convenience while working. New editions now ready, price \$2.00 post paid.

MODEL CRAFTSMAN RAMSEY, NEW JERSEY

The Model Craftsman

PROTOTYPE QUIZ

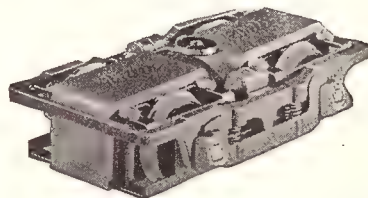


IF YOU were asked to describe a locomotive or to name a particular part and where it is located, would you be able to supply the information immediately or give an explanation of its function? Above are shown nine different parts of the average locomotive, all of which should be familiar to the model railroader. How many can you name? Check your results with the answers given upside down at the right.

- ANSWERS**
1. Marker Light
 2. Sand Dome
 3. Steam Dome
 4. Air Reservoir
 5. Whistle
 6. Cylinder and Valve Chamber
 7. Counterbalance
 8. Air Pump
 9. Pilot (Cowcatcher)

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S-10 Non-powered Trailer Truck..... \$5.00
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Cash with order, or see your dealer.
Fully sprung and equalized, direct drive,
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Add more life to your pike! Natural growth from Calif. mountains, carefully processed, dyed and coated to give natural appearance. Inexpensive, long-lasting, washable. In HO, O and Extra Large sizes. FREE illustrated folder shows complete line of trees and shrubs and money-saving kits.
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Your dealer can supply you, or we will ship direct, postpaid. Send check or money order. Dept. MC-7.

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Lawn and Porch Swings & Gliders designed to simulate a "Summer Trolley Car" and many other common carriers. Has track, wheels, seats, running-board brakes, controller, trolley wire & pole and other realistic features.

A new and different kind of modeling and railroading, offering adult-size, ride-on play equipment.

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Other currently popular roll-swing vehicles are: Caboose, Crosstown Trolley Car, Diesel Switcher, Work Car, Ferryboat, Space Ship and House Boat. Introductory set of plans for home use \$2.00.

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RAILROADS—HO GAUGE

Low-Wheeled 4-6-2 Pacific	June thru Nov. '44
Semi-Diesel Railcar	Aug. '44
The "999" in HO Gauge	Sept., Oct. '44
1st Prize in HO Layout	Oct. '44
2nd Prize in HO Layout	Nov. '44
Open-End Gondola Car	Dec. '44
HO Draft Gear	Dec. '44
Three HO Layouts	Feb. '45
C & O Mountain Type Locomotive	Mar. '45
Laying Out HO Pikes	Apr., May '45
6-8-0 Switcher	May '45
Cement Hopper Car	June '45
Consolidation and Tender	June, July '45
"S P" A-6 Atlantic	Aug. thru Nov. '45
Pennsy T-1 Locomotive	Sept., Oct. '45
Powerful Electric Engine GG-1	Oct., Nov. '45
6000 N.Y.C. Loco & Tender	Nov. '45
Central Vt. Loco.	Jan. '46
C & O Hopper Car	Jan. '46
Southern Pacific 4-4-0	Mar. thru June '46

O GAUGE

Motorized Wrecking Crane	Sept. '44
Mother Hubbard 4-4-2	July '46
Suburban Double Ender	Sept. '46

OO GAUGE

Six Passenger Cars	Nov. '44
War-Time Car Building, Express Reefer	Apr. '45
Double-Deck Sleepers	Apr. '45

PROTOTYPE DIMENSION PLANS

Railroad Station (Plans in HO)	July '44
Old Royal Blue Cars & Loco.	Aug. '44
Coal Breaker	Nov. '44
"Old Time" Railroad Station	Dec. '44
New Troop Kitchen Car	Feb. '45
Four Free Lance Cars	May '45
Reading Camelbacks	June '45
Burlington's "Vista-Dome" Observation Car	Nov. '45
U.P. 800 Class Loco.	Dec. '45
Erie Caboose	Jan. '46
C. & N.W. Pacific 4-6-2	Feb. '46
B. & O. Mallets	June '46
Penn E-6 Atlantic	Aug. '46
Loco Traveling Crane (all gauge)	Oct. '46

RAILROAD MISCELLANEOUS

Laying Out HO Pikes	April, May, July, '45
A Model Saw Mill	July, Aug. '45
Bridge Warnings	Nov. '45
HO Trestle	Dec. '45
Simple Crossing Gate	Dec. '45
Standard Brick Signal Tower	Jan. '46
How to Build Tunnels	Feb. '46
Bridges	Mar. '46
HO Coal Tipple	Apr. '46
A Terminal Throat	May '46
A Big Interurban Layout	June '46
V & T Passenger Station	June '46
Track & Scenery Foundation	July '46
Three-Way Switch	Aug. '46
A Simple Interlocking Plant	Sept., Oct. '46
B. & O. Coal Tower	Sept. '46
Speaking of Water Falls	Oct. '46
Does Your Layout Have a Church?	Oct. '46

TROLLEYS

Model Cattle Car (Prototype Dimensions)	July '44
Shooting Trouble on HO Motor Trucks	Oct. '44
Trolley Wirework	Nov. '44
Interurban Depot & Substation	Feb. '45
Hudson & Manhattan Tube Cars	Mar. '45
Interurban Mail	Apr. '45
"Open Air" Elevated Railways	June '45
Yards, Barns & Terminals	July '45
Trolley Work Cars	Aug. '45
Trolley Snow Plows	Nov. '45
Trolley Front Ends	Dec. '45
Trolley Freight Service	Jan., Feb. '46

Power for Your Trolley	Mar. '46
Double Cab Work Car	Apr. '46
Pacific Electric Car (O Gauge)	May '46

LIVE STEAM

Valve Gears, Gear Frames & Boiler Saddles (3/4" sc.)	July '44
Boiler Injector & Lubricator (1/2" sc.)	Aug. '44
Engine Pilot, Pilot Beam, Water Gauge (1/2" sc.)	Sept. '44
Single Cylinder, Steam-driven Feed-Water Pump (1/2" sc.)	Oct. '44
Home-Made Cylinder Cocks (1/2" sc.)	Oct. '44
1/2 H. P. Horizontal Steam Engine	Feb., Mar., May '45
Boiler Feed-Water Pump (1/2" sc.)	Feb. '45
Advantages of Inch Scale	Mar. '45
Cab, Coupler, Drawbar Pocket, Bell, Dome (1/2" sc.)	Apr. '45
Boiler Construction Hints	May '45
Assembly & Connections (1/2" sc.)	June '45
Steam Driven Water Pump	Oct., Dec. '45, Feb. '46
Stationary Steam Engine	July thru Oct. '46

TINPLATE & SCALE CONVERSION

Hi-Rail-Cantilever & Steel Arch Bridges	July '44
Suspension Bridges	Aug. '44
Adding Human Interest to Your Layout	Sept. '44
Wherefore "Hi-Rail"?	Oct. '44
Flag Stops	Nov. '44
"Combination" Stations	Feb. '45
Smooth Scaling	Mar. '45
Car Kinks	May '45
Improved Tin Type Trucks	July '45
Realistic Tinplate Cars	Dec. '45, Jan. '46
Tin-Types "Trued to Life"	June '45
Along the Tinplate Track	Monthly Feature

AIRPLANES

"Tiger Meat" Class C Guide Liner (Millett & DeBolt)	Oct. '45
Dizzy "B", U Control (Greene)	Nov. '45
"Butch", Class C Guide Liner (DeBolt)	Dec. '45
"Moldy Molecule", Class B & C Guide Liner (DeBolt & Thomasian)	Jan. '46
"Super Bat", New Design (Shulman)	Apr. '46
"Thunderwin", U Control (McElwee)	May '46
The "Atomic", U Control (Shulman)	June '46
"Pigmy", Free Flight Class A (Marinelli)	July '46
"Pirate", Control Liner (McGovern)	Sept. '46
"Anzac", Class C Free Flight (McCaullough)	Oct. '46
Your Engines (Class A & B Survey)	Aug. '46
Your Engines (Class C Survey)	Sept. '46
Engine Maintenance & Operation	Sept. '46
Folding Props (Thomas)	Oct. '46

ELECTRICAL ARTICLES

Home-Made Telephone	July, Aug. '44
Battery Charging Hints	Aug. '44
Switch Motors from Doorbells	Oct. '44
Polarity Indicator	Oct. '44
A. C. Power Supply	Nov. '44
Radio Control for Model Layouts	Dec. '44
Crossing Gates, Electrically Controlled	Dec. '44
Wind Your Own Magnets	Dec. '44
Home-Made Rheostats	June '45
"Per-Mag" Switch Machine	Aug. '45
O Gauge Motors	Oct. thru Dec. '45
Universal Wiring Circuit	Apr. '46
Train Control Rheostat	June '46
Lighting Your Trains & Buildings	May '46

RACE CARS

Molding Car Bodies	July '44
Getting Ready for Racing	Mar. '45
Building a Model Race Car	May thru Nov. '45
How to Get More Speed	May '45
Trouble Shooting	Feb. '46
What Type Racing Car?	Mar. '46
Test Car #1	Apr. '46
Test Car #2	July '46
Rail Track Construction	May '46
Cable Track Construction	June '46

BOATS

Magneto for Boat Engines	July '44
"Misfily", Prize-Winning Model Speed Boat	May '46

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I enclose my check ☐ ; money order ☐ ; in payment. (Add 5c to checks.)

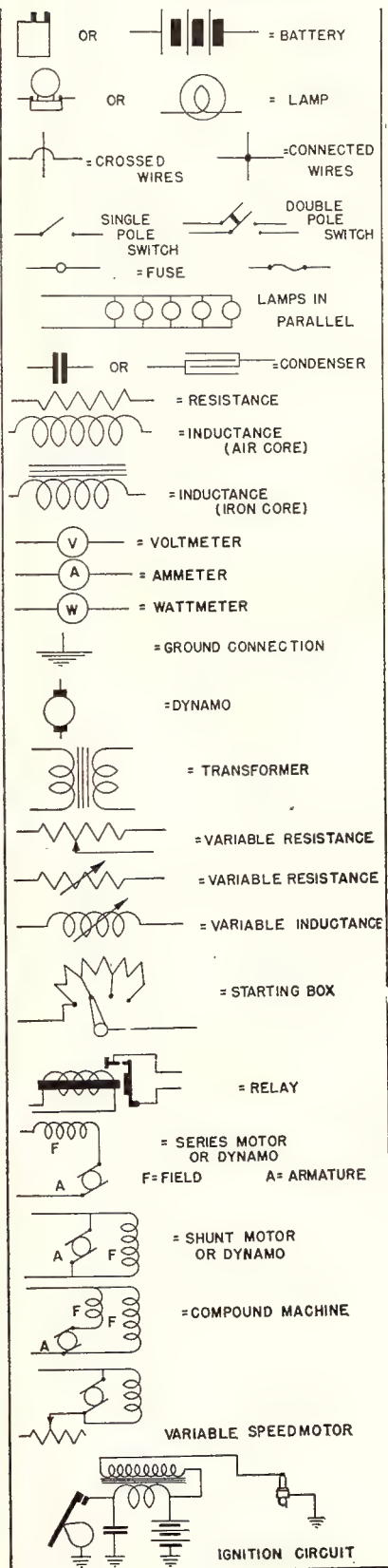
Name

Street

City

estimated. Without taking away any credit for the great impetus which Ives, for similar reasons, gave to this method of selling trains when they introduced their track trains and their first consumer catalog in 1901, it must be remembered that Carlisle & Finch actually

ELECTRICAL SYMBOLS



originated the tinplate catalog as we know it today.

Through these catalogs, ads, surviving specimens and other sources, we can now almost completely picture the overall development of the Carlisle & Finch line. Their motive power divides itself readily into two groups, street cars or "trolleys" and locomotives.

The first product was, of course, the four wheel trolley of 1896, made as were all Carlisle & Finch street cars and interurbans with a body of thin, unpainted, polished brass. As a three rail model, this car belongs in a group by itself.

In 1897, it was followed by a similar four wheel car, No. 1, and by an eight wheel 12" street car or interurban, No. 2. It is now known that this early No. 2 car was fitted with a motor in each truck, thereby making it the earliest endeavor toward the "twin motor" effect. The No. 1 car had a two pole motor and no reverse and was soon supplemented by a No. 1-R car, which was fitted with a three pole motor and hand reverse. The No. 1 car was continued by Carlisle & Finch up to and including 1907. It was belt driven, a small pulley slot being cast on the inside of one of the cast iron wheels.

The next C & F motive power unit was logically numbered 3, and was a model of an electric coal mining locomotive, a somewhat shapeless and nondescript little box body mounted on a chassis with large wheels and connecting rod. With a train of coal or dump cars, this model represented "a modern hauling plant as used in our large coal mines."

No. 4 was a steam outline locomotive, but because of the importance of the C & F steam types (No. 4 was the first steam outline electrically driven locomotive manufactured in this country) we shall delay describing the mutations of this and the three subsequent C & F steam types until next month.

In 1902, a slightly larger and more elaborate four wheel trolley was introduced, with outside truck frames and a geared motor. (No. 1 and 1-R cars had inside frames and belt drives.) The new model was known as the No. 42. In 1903, it was still further improved.

The next development in the C & F trolley line was the entire redesigning of the No. 2 in 1904, which emerged as a definite interurban as shown here. The new car was 19" long, had numerous small windows on each side, a reverse, bronze truck frames with brass wheels, and one geared motor in place of the two motors of the earlier version.

At the same time, two new four wheel street cars appeared, the No. 18 closed car, and the No. 19 open or "summer" car with movable seats. These cars were each 13½" long and were quite the thing at the moment, really beautiful little jobs within the usual framework of the C & F styling and construction. Both these cars were also put out with working trolley poles on the roof so that they might actually pick up their current from an overhead system. The No. 18 car is illustrated fitted for this system, and showing the C & F single overhead wire poles. Double poles, carrying the wire



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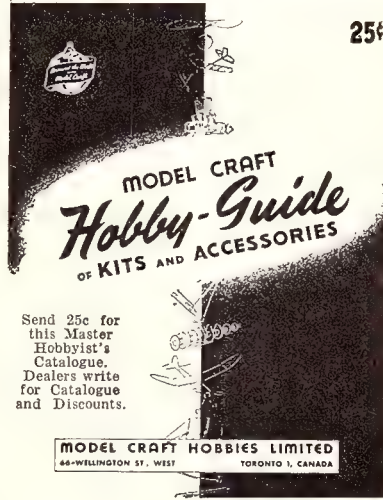


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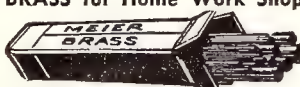
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over two parallel tracks, were also manufactured.

About 1907, the No. 2 car was completely redesigned again. The overall size was left unaltered, but a new body with five large windows on each side was used, and new trucks with stamped metal instead of cast sides. This body, which appears somewhat unusual in style for a street car or interurban, was transferred from a deluxe twelve wheel Pullman "Sleeping Car" which C & F made briefly in 1905 and 1906. Not only was this No. 87 Pullman the only twelve wheel car produced by C & F, but also their only vestibule passenger car.

The last Carlisle & Finch trains were made around 1916. Like other manufacturers at the time, they found the popularity of the trolley cars declining, and at the end, were manufacturing only the No. 42 and No. 2 cars.

(To be continued)

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CHICAGO CABLE FANS

By "HAP" WYCKOFF

THIS month we tell you about another "good guy"—Earl Stump, affectionately known as "Big Earl." He also is one of the original members of the Harvey Model Race Car Club and is the "builder" of the club. It's Earl who supervises the building and construction of the track, crash wall, the fences and pit tables, and who also does about three-fourths of the work. His ability along this line and his willingness to work is



Photo by Mrs. Wyckoff

Meet Earl Stump, a real "good guy" from the Harvey Model Race Car Club.

greatly appreciated by all the members.

Earl races a Spur gear and a Proto of his own design. His 15-year-old son, Sam, is another enthusiastic member of the club, having both a Spur and Proto. Sam won his first trophy at Champaign, May 25th, by placing 9th in the Proto division, and was he a proud and happy boy!

Earl lives at 273 E. 149th St., Harvey, Ill., and is another fan having a well equipped basement shop where he and Sam can be found most every evening. He is a very enthusiastic cable racer, attends all of the races in this part of the country and also made the trip to Monroe, La., for the New Year's Day Classic and to Fresno for the All-Proto Race last February.

ARE RACES BECOMING A BORE?

By STEVE SIMMONS

I'M ONLY an amateur at this racing sport, but here's one observation I have made that seems to be generally true throughout the Midwest.

For the past several races, there has been an excess of cars for properly conducting a race. Either two events are run in the Proto division and one in Spur Gear, or only one heat is run in both classes. I believe that originally an individual was entitled to three heats in a race. Certainly this regulation cannot be carried out with a field of seventy or eighty cars.

As a recent example, consider the opening race at Danville, Ill., on April 27th. I do not know the exact number of cars entered, but it was approximately ninety. Those of you who were there know it was impossible to run more than three heats all told! Thus the Spur Gear boys had to get in their time on one run only.

This situation, of course, is undesirable. Something must be done to change this picture and cut down the field of cars in a given race. *What shall it be?* Eliminate Spur Gears? *Certainly not!* Start races at 10:00 A. M. and limit entries to state competition? What's *your* solution to make our races more enjoyable for the amateur and "old timer" alike?

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(Continued on page 50)

The Model Craftsman

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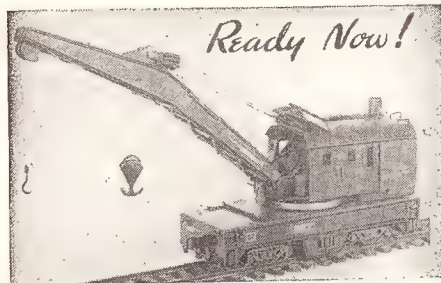
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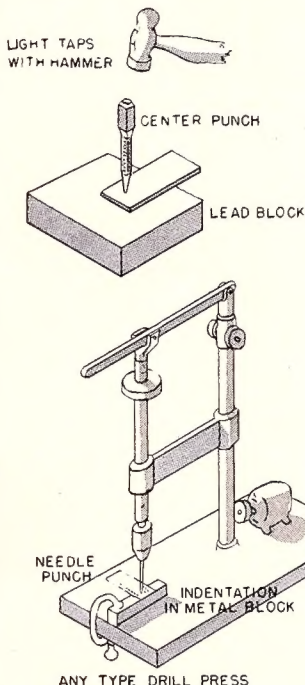
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A common mistake of the average model builder is to either overdo the number of rivets or make them so oversize to be ridiculous! Consider the actual size of a real rivet and then imagine a miniature rivet just $\frac{1}{48}$ as big! And this is for O-gauge—just figure it out for HO.



Several methods come to mind for duplicating rivets in miniature. Take the easy way of using embossed strip of paper made up on the typewriter, just by pounding the period key with your ribbon thrown to "stencil" position. Strips of rivets can be knocked out by the score and then trimmed to size, ready for cementing to the model.

For punching rivets into sheet metal, obtain a block of lead and use this as a base. Place the metal on the lead base and tap lightly a pointed punch as shown. Be careful that point of the punch is not too sharp as to pierce the metal. A simple jig is also illustrated, using a set of mail and female dies and an inexpensive drill. As shown, the male die can be easily made up from a phonograph needle or an old drill, ground down to a rounded point. A small hole of suitable size can be drilled into a block of steel to act as the female die.

(Continued from page 24)

the pump. If powdered graphite is mixed with the oil, it should last for an hour.

HEATER: The feedwater heater is a drum made of 2" copper or brass tubing, 5" long. It can be rolled up from galvanized iron sheet and locked or lap-seamed, as it carries no pressure. The ends may be flat or dished out as shown. On large heater, the tubes run from tube sheets like a condenser and the ends bolted on, facilitating repairs. The heater is asbestos lagged and covered with a steel casing. Solder in the ends after the coil is in place. Finish it smooth, giving it the appearance of a lagged job, having no bolts in sight. Four $\frac{3}{64}$ " x $\frac{1}{8}$ " brass bands can be soldered on and polished, while the tank is painted to simulate lagging bands. The coil will require about five feet of $\frac{1}{4}$ " copper tubing. This starts at the pump end and makes 12 turns toward the steam end. It then returns "through itself" to the outlet at the top. To wind the coil, use a $\frac{3}{4}$ " iron pipe as a mandrel, slot the end, and pass the internal part of the coil through the mandrel, winding the coil around it. (fig. 8) With the tubing all bent, cut a fine thread on the ends to take the flanges. Tin them, screwing them in while hot and soldering the flanges to the tank. Solder in the heads. The $\frac{1}{8}$ " vent is to release trapped air from the heater and should go through the roof of the engine room. No valves are necessary as it has open ends.

Run the $\frac{3}{16}$ " drain from the bottom of the heater tank to the bottom of the feed tank. This drains the water coming from the condensation of the exhaust steam back into the feedwater tank. The suction pipe goes down into the tank and should have a brass or copper gauze strainer. This is obtained from automobile gasoline strainers.

Paint the entire assembly to match your engine. My base was painted green as well as the pump barrel and valve box. Cylinder jacket should be black, with polished edges on all flanges, air chamber, connecting rods, flywheel rims and hubs. The centers of the flywheels are red.

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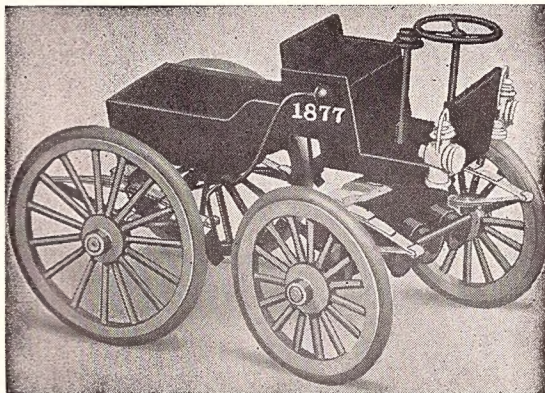
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This 1/2" scale model of Selden's Horseless Carriage is the forerunner of our modern automobile. Kit builds authentic and detailed model, including fully formed plastic spoked wheels, head lamps, and steering wheel. Die cut plastic springs and shaped wood parts included to complete historic model. A Collector's Item.

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Classified Department
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MODELS & SUPPLIES

RAILROADERS!!! Our Scale Illustrated Catalog with Refund Coupon 25c. Lionel or American Flyer list upon request. **TRI-LOR HOBBY**. 1ST, State Road, North Dartmouth, Mass.

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TOY TRAINS made before 1925. Dr. Kowal, 1846 Cullerton, Chicago.

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10-LBS. JEWELRY . . . \$20. Mostly broken. Some perfect pieces. Send order today. B. LOWE, Holland Building, St. Louis 1, Mo., Dept. M.C.

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WATCHES—BROKEN OR USABLE. All kinds. Highest prices paid for jewelry, rings, spectacles, gold teeth, diamonds, sterling silver, etc. Cash mailed promptly. Write for free shipping container. **LOWE'S**, Holland Building, St. Louis 1, Missouri. Dept. M.C.

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20 **WATCH** Movements broken for Student Practice Work, \$10.00. 3 Pounds Broken Costume Jewelry, \$8.00. 1000 Costume Jewelry Stones, \$3.50. **LOWE'S**, Holland Bldg., St. Louis 1, Mo., Dept. M.C.

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PLASTICS. Sheets, rods, tubes. Free list. Swiss music units \$3.50. **Plastics Supply Co.**, 2618 St. Louis Ave., St. Louis, 6, Mo.

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MAGAZINES (back dated)—foreign, domestic, arts, Books, booklets, subscriptions, pin-ups, etc. Catalog 10¢ (refunded). Cicerone's, 863 First Ave., New York 17, New York.

NOW AVAILABLE—1943 issues of Model Craftsman. \$5.00 per complete set. Model Craftsman, Ramsey, N. J.

MISCELLANEOUS

MEN'S SHOES, sizes 11 1/2 to 16, widths AA to EEE. Finest quality, prompt delivery. **FREE** circular. **KING SIZE**, Brockton, Massachusetts.

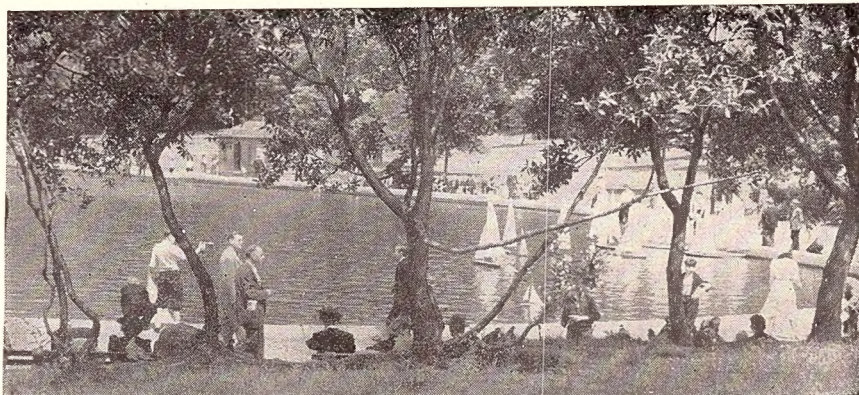


Photo by A. Watt

Outdoor Model Yachting takes on new life! The Central Park Model Yacht Club takes to water at Observatory Lake in Central Park, New York City.

ELECTRIC EYE TIMER

(Continued from page 46)

"The device which starts and stops the time clock is about the size of a table model radio receiving set and has the appearance of a table radio—being put up in a nice metal case with a crinkle-enamel finish. The time clock is mounted on top of this case, reads to 1/100th of a second but, according to the manufacturer, is accurate to within 1/1000th of a second. Since ours is a 1/4th mile track, our races will be for 1/4 mile or 6 laps. As you will see, the nice thing about this entire set-up is that the owner does the timing for his own car and there can be no griping about the results.

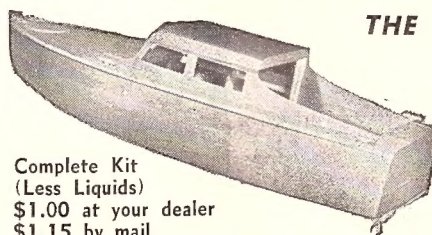
"You set your car in motion and when you think it is doing its prettiest, you press a button on the end of a rubber-covered extension cord. The first time the car trips the beam, the clock starts and it will keep right on running until the beam has been tripped six times more and the button in your hand has no control until that time and until the thing has been reset. At the end of the first lap, a little red light comes on. There are six of these little lights in a horizontal row on the face of the case described previously. At the end of the second lap, the second little red light comes on and so on until all six lights indicate six completed laps. When the beam is tripped at the end of the last lap, the clock stops and further laps will not register and the owner is stuck with the bad news if he is a competitor (*we hope*) and the good news if it's your own little darling!

"The thing is absolutely fool-proof. All

the officials have to do is watch the clock readings and there can be no griping that the timers started to time too soon or too late—the owner has no one to blame if his car seems to come in better after he has pressed the button; he should have waited another lap or two. When he glances over and sees all six red lights, that run is over and there is an accurate record of the time. He then knows there is no use in burning up more fuel and he might as well fish out his rag and trip the ignition switch.

"Our new track is under construction and the light source is to be set in the concrete under the surface. The eye will be mounted on a stiff bracket made out of gas pipe and about six feet high. This bracket will be on the outer edge of the track so as not to interfere with the man pushing his car. When running, the car will pass directly over the light source and thus intercept the beam. A heavy piece of glass will be set flush with the surface and over the light source to prevent anything falling down into the cavity in the concrete where the light source is located."

After reading the description of this beautiful unit, you fans should be anxious to see it in operation. Right now the Columbus Club is inviting everyone to their Invitational Race which is scheduled for September 13th and 14th. You'll recall the bang-up affair held last year at this track. The boys from neighboring States who lugged home trophies will be back defending them and anyone who has a real hot iron will have every opportunity to prove it. AMRCA rules will be observed.



THE DOLPHIN

A Powered Scale Model
Genuine Mahogany Covering
Scale Balsa Frame
Metal Parts - Rubber

Distributor's Inquiries Invited

THE KEPKRAFTSMEN COMPANY

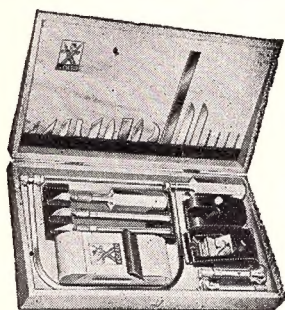
424 REDELL ST.

Dept. M

GARLAND, TEXAS



Casco Motor Tool, W/Acces. (Above) \$22.50
Dremel Moto Tool Kit, W/Acces. 23.50
Burgess Deluxe Vibro Tool, W/Acces. 16.50
KING KUT TOOL CHEST 10.00
KING KUT Carving Set 5.00
Model Builders Vise 2.95
Model Builders Anvil 2.00
Bunson Burner 2.25
Soldering Iron W/4 tips 5.00
Handie Motor Tool W/Acces. 27.50
Woodburning Pen Set 2.00
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No. 85 X-acto Tool Chest—3 all-metal knives; assortment of blades; saw; sander; stripper; planer; 2 drill holders; 10 drills; 6" steel ruler; complete in wooden chest, \$12.50. (Illustrated)
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#84 Small Tool Chest 7.50
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Other X-Acto tools available are: Pliers, Protractor, Tweezers, Hammer Set and those items contained in #85 Chest.

RAILROAD ACCESSORIES

Our stocks are rapidly becoming complete as production is increasing. Most all items for "O", "OO", "HO" are now available. Full line of Mantua, Varney and Walther's are in stock. Whatever you may see advertised elsewhere in this magazine, the chances are we will have it.

Varney Power Trucks "HO" \$11.50
Pittman Power Pack 17.75
Challenger Switch Machine 2.50
Kasner "O" Stream. Pullman (Comp.) 8.50
Kasner "O" Stream. Coach (Comp.) 9.50
Kasner "O" Baggage-Mail (Comp.) 8.75
Kasner "O" Duplex Pullman (Comp.) 8.95
Indianhead Switch Machine 1.25

"HO" CAR KITS

Varney 2.90
Lehigh 2.50
J-C 1.35
Ideal 1.75
Mantua 2.95
VARNEY'S New "O" Gauge
B. & O. Ten Wheeler Loco Kit \$100.00
Lobaugh Berkshire Loco Kit, Complete 128.50

"HO" LOCO KITS

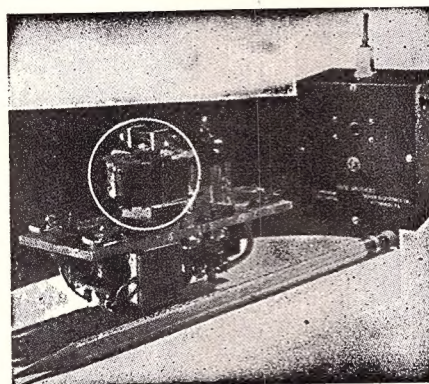
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Mantua Bell of 80's 29.50
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Mantua Roundhouse Goat 24.50
Varney New Pacific 37.50

GAS MOTORS (Immediate Delivery)

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Arden B. B. .099	A	19.50
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Bantam	A	18.50
Atom	A	15.50
Ohlsson 19	A	14.50
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We have a complete stock of all leading gas motor parts.

CHAMPIONSHIP RADIO CONTROL



★ SMALL ENOUGH for Class B. Can be installed in control line models. The last word in scientific plane control by radio! Equipment furnished includes transmitter in black crinkled finished metal case size 4 x 4 x 6", range approximately 2 miles; receiver size 4 x 1 7/16 x 2 3/4" high; weight 5 ounces, operates on 4 Pen-Light batteries (2 ounces); 1-45V, "B" Battery (8 1/2 ounces); and escapement unit size 2 1/4 x 1 1/2 x 1" high, weight 1 ounce (not shown). Also useful in model railroading for radio train control **\$59.50**

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52 pages—Planes, Ships, Tools, Accessories, etc. Post Paid 25c
New Authenticast Catalog
Metal Ships—Tanks—Planes—35c

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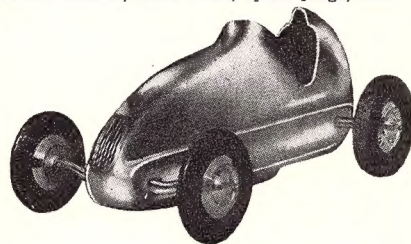
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PLUS MANY OTHERS

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We maintain a large supply of all gas model accessories. Your selection of: props, coils, condensers, wire, dope, battery boxes, timers, motor mounts, balsa wood, spark plugs, etc.



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Complete stock Wheels, Tires and Parts

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Harco Cabin Cruiser	4.50

SAIL BOATS

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All Star Sail King	2.00
Comet Gypsy Sloop	1.00

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Marine Sea Mortar	\$4.00
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Marine Artillery Field Piece	5.00
Innovation Cannon, Unfin.	8.50
Innovation Cannon, Fin.	13.95

Established 1890
CORR'S

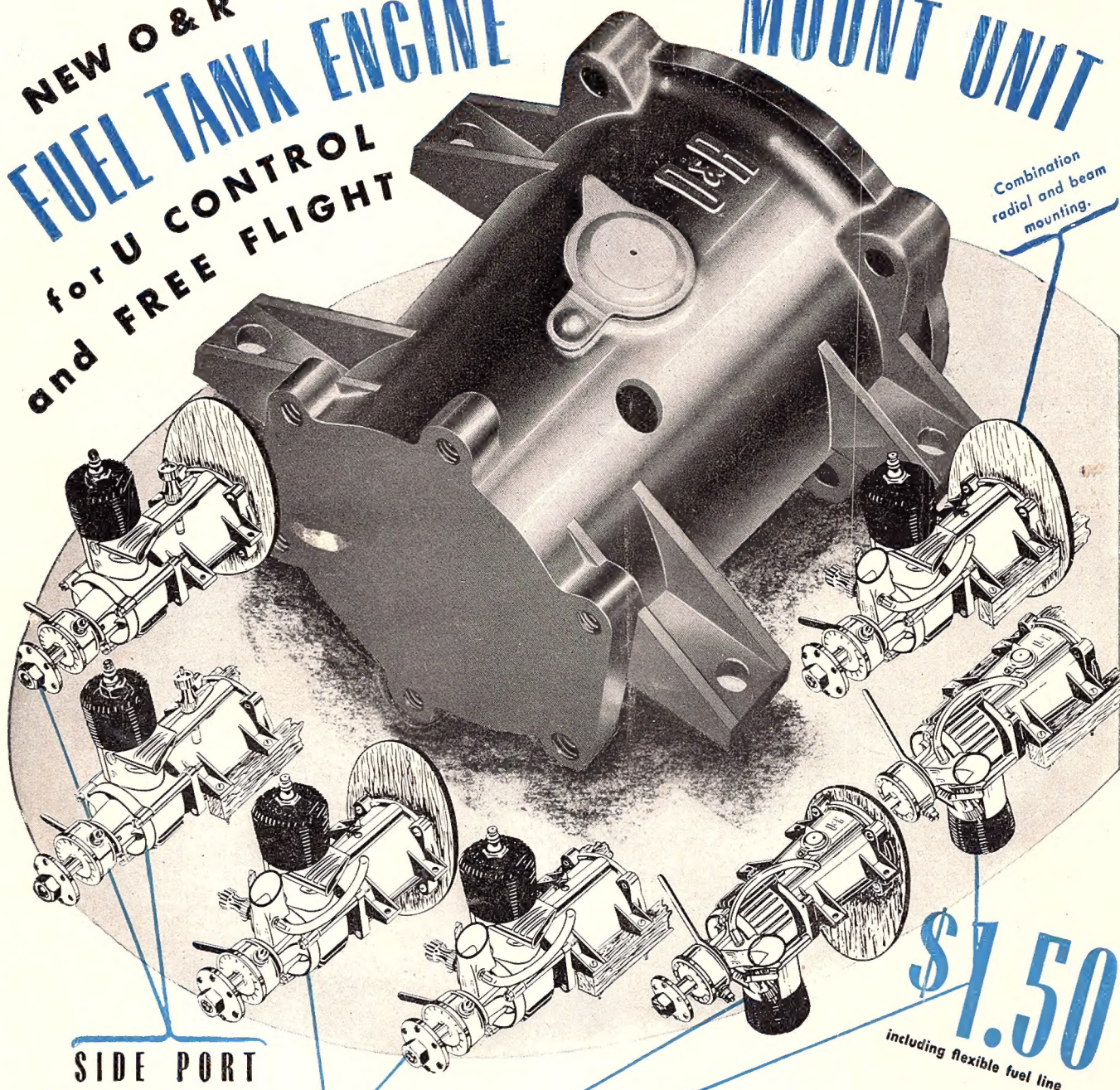
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for U CONTROL
and FREE FLIGHT

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Combination
radial and beam
mounting.

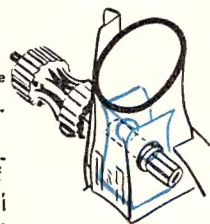


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for all O & R 19's or 23's no matter when purchased
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